SURGICAL LIGHTING FIXTURES
22-inch Lighthead

(2/76) P-750290-091

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SAFETY PRECAUTIONS

The following *safety precautions* should be observed when operating or servicing this equipment. The page or pages on which the precautions appear in this manual is indicated by the number in the lower right-hand corner of each item.

WARNING: NEVER OPERATE LIGHT WITHOUT HEAT CYLINDER PROPERLY INSTALLED. USE OF FIXTURE WITHOUT HEAT CYLINDER COULD CAUSE PERSONAL INJURY. 2-1

WARNING: MAKE SURE ELECTRICAL POWER TO LIGHTHEAD IS OFF AND THAT LIGHTHEAD IS COOL BEFORE CLEANING. 2-2

WARNING: BE SURE TO DISCONNECT POWER AT MAIN BREAKER AND ALLOW LIGHTHEAD(S) TO COOL BEFORE STARTING ANY MAINTENANCE PROCEDURES. 4-1

CAUTION: Be careful when removing grooved pins from lighthead suspension tube so as not to damage wiring contained in tube. 4-1

WARNING: THE REMOVAL AND REINSTALLATION OF A CENTRA 360 LIGHTING FIXTURE WILL REQUIRE A MEANS OF SUPPORTING IT WHILE THE MOUNTING HARDWARE IS BEING REMOVED AND REPLACED. IF DONE PHYSICALLY, AT LEAST TWO MEN WILL BE REQUIRED TO HOLD THE FIXTURE WHILE A THIRD REMOVES OR REPLACES THE HARDWARE. 4-7

WARNING: WHEN INSTALLING A CENTRA 360 LIGHTING FIXTURE, BE SURE THAT LOWER NUTS ARE FULLY ENGAGED ON EXTENSION BOLTS. ALLOW AT LEAST 1/16"FROM BOTTOM OF NUT TO END OF BOLT. 4-7

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SECTION 1

GENERAL INFORMATION

The product literature included in this section contains factual data relating to the principal descriptive and identifying characteristics of AMSCO Surgical Lighting Fixtures with 22″ Lightheads. It describes and illustrates general concepts of the equipment, its purpose, capabilities, limitations, and technical specifications. □ □

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SECTION 2

OPERATING INSTRUCTIONS

2-1. GENERAL

The following instructions are intended to guide the serviceman: (1) when instructing operators in techniques designed to ensure optimum equipment performance; and (2) when verifying validity of operator complaints. See Paragraph 3-4, TROUBLESHOOTING, if Fixture is not operating properly. Refer to Section 1, GENERAL INFORMATION, for capabilities of the equipment.

2-2. OPERATING INSTRUCTIONS

WARNING: NEVER OPERATE LIGHT WITHOUT HEAT CYLINDER PROPERLY INSTALLED. USE OF FIXTURE WITHOUT HEAT CYLINDER COULD CAUSE PERSONAL INJURY.

Lamp Switch (Fig. 2-1)

An ON-OFF Toggle Switch is near the Remote Control Handle on track-mounted and Centra 360 lightheads. A wall-mounted switch is customer-installed for suspension tube mountings. If Fixture has a Variable Intensity Control, use Circuit Breaker Switch on the control panel to turn lighthead on and off. If two or three lightheads are controlled by the Variable Intensity Control, one or two of them may be turned off by the lighthead Toggle Switch.

Lighthead Movement (Fig. 2-1)

The lighthead may be (1) rotated continuously around vertical suspension tube; (2) rotated clockwise or counterclockwise about horizontal crossarm (within the limits of stops); (3) tilted forward or backward in yoke; and (4) raised or lowered by pivoting at suspension fork. Depending upon Fixture, lighthead may also be traversed full length of track or rotated continuously around central hub. All movements can be made by either the handle on lighthead or the knurled Remote Control Handle.

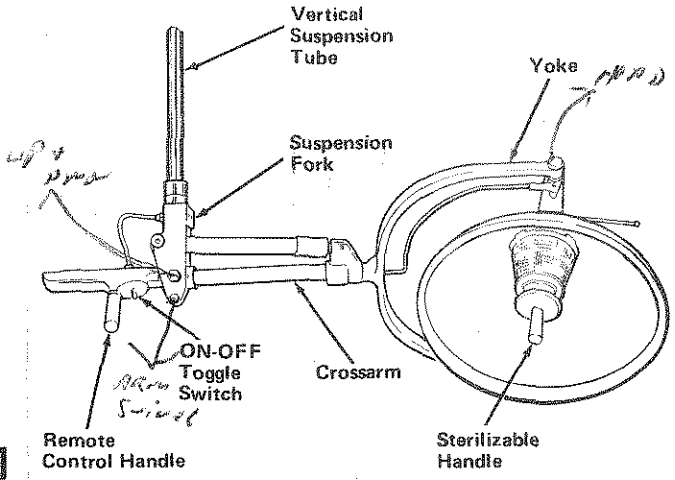

Figure 2-1. OPERATING THE LIGHTHEAD.

Light Pattern Adjustment (Fig. 2-2)

Select light pattern size (small, medium or large) by moving Pattern Selector Arm to one of three positions indicated (by letters S, M, L) on reflector.

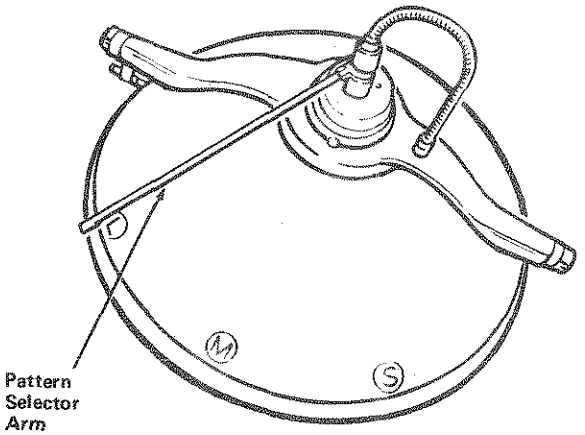

Figure 2-2. SELECTING LIGHT PATTERN.

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Optional Variable Intensity Control (Fig. 2-3)

The wall-mounted Variable Intensity Control regulates light intensity. To operate Control, press Circuit Breaker Switch to ON. Turn Control Knob Clockwise to increase light intensity; counterclockwise, to decrease intensity.

An integral voltmeter indicates voltage to lamp(s) at each Intensity Control Knob setting.

By periodically observing voltmeter, one can approximate light intensity and prolong lamp life by reducing voltage whenever high intensity lighting is not required. Also, turning intensity to its lowest setting before turning off Control will increase lamp life.

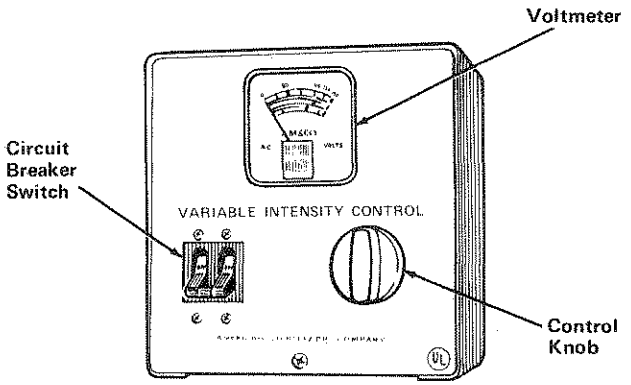

Figure 2-3. LIGHT INTENSITY CONTROL.

2-3. CLEANING INSTRUCTIONS

WARNING: MAKE SURE ELECTRICAL POWER TO LIGHTHEAD IS OFF AND THAT LIGHTHEAD IS COOL BEFORE CLEANING.

Reflector

Periodically dust reflector with a soft dry cloth. As necessary, clean reflector with AMSCO *Surgical Reflector Cleaner* (Part P-75683-091) . . . follow directions on container. To remove stubborn soil, use a nonabrasive paste-type cleaner . . . try a sample spot first. **Do not use abrasive cleaning compounds to clean reflector.**

NOTE: A mild soap or detergent and water, though less effective, is an acceptable substitute for the AMSCO cleaner. Rinse with clean water and dry thoroughly.

Heat Cylinder

Wipe cylinder clean with a slightly dampened cloth.

Lamp Handle

To clean, remove handle from lighthead by turning counterclockwise. The handle may then be steam sterilized. □ □

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SECTION 3

INSPECTION AND MAINTENANCE

3-1. GENERAL

The maintenance described in Paragraphs 3-2 and 3-3 should be performed at intervals best determined by usage of the equipment. Should a problem occur when operating the unit, refer to Paragraph 3-4, TROUBLESHOOTING.

3-2. ROUTINE INSPECTION

1. Inspect entire installation for any signs of damage or misaligned parts.

2. Be sure ceiling fasteners are tight and that Fixture is properly supported.

3. Check lighthead movement (Par. 2-2) using both remote control handle and lamp handle. Be sure each movement is smooth and that there is no binding.

4. Check electrical components for loose wires, improper connections and other obvious defects.

5. Refer to Paragraph 4-2 and remove lamp. Check it for proper wattage and type . . . medium base, 150 watt – P25 spotlight, silvered bowl, clear lamp.

NOTE: Proper lamp and voltage are necessary to provide the focus needed to assure correct beam pattern at the operative site. Rated life of lamp at proper voltage is 200 hours. A decrease in voltage will reduce intensity and increase lamp life; an increase in voltage will increase intensity and reduce lamp life. Continuous operation of a 120-volt lamp at 140 volts will reduce its life to 30 hours . . . refer to Paragraph 2-2 for proper operation of the Variable Intensity Control.

6. If installation includes optional Variable Intensity Control, operate light to be sure intensity increases when control knob is turned clockwise; decreases when knob is turned counterclockwise. Be sure voltage as indicated on voltmeter is between 85 and 140 volts.

3-3. PREVENTIVE MAINTENANCE

1. If a track-mounted light, lubricate carriage wheels with LUBRIPLATE No. 630-AA (AMSCO Part 751454, manufactured by Fiske Brothers Refining Co. – 2-ounce tube) or equivalent non-drip lubricant. Wipe off excess. (Note: Wheels should be lubricated at least once a year.)

2. Thoroughly inspect (Par. 3-2) and clean (Par. 2-3) the Fixture.

3-4. TROUBLESHOOTING

1. Use operating procedures presented in Section 2 to verify trouble symptoms.

2. After symptom has been verified, refer to Table 3-1. From the table, select example that is most appropriate to your problem. Follow recommended correction.

3. Use Electrical Schematics (Figs. 3-1, 3-2 and 3-3) as aids in understanding operation of the Fixture and in locating problems.

4. Refer to Section 4, COMPONENT REPAIR AND REPLACEMENT. □ □

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TABLE 3-1. TROUBLESHOOTING CHART

PROBLEM	SUGGESTED CORRECTION
1. Lighthead and arm assembly drifts up or down	a. Tighten suspension Fork Swivel Assembly (Fig. 5-7) as follows: 1) Loosen Setscrews (17) 2) Tighten Hex Bolts (16) until desired friction is obtained 3) Tighten Setscrews to lock hex bolt setting
2. Lighthead rotates about crossarm out of balance	a. Refer to Figure 5-7 and tighten Hex-head Nuts (18) at bottom of Suspension Fork (13)
3. Carriage drifts (track-mounted lights only)	a. Be sure Track is level. Adjust Nuts above and below Track on ceiling support studs **NOTE:** If Track cannot be leveled, a brake assembly is available for attachment to the track.
4. Light flickers	a. Examine all connections; tighten or repair, as necessary b. **Track-mounted Lights:** Remove Carriage Assembly from Track (Par. 4-6) and examine Collector Ring Assembly: 1) If Assembly is as shown in Figure 5-5 lower insert (utilizing one brush spring), order items 34, 37 and 38 and convert Assembly to arrangement shown for equipment shipped after 3/73 2) If Assembly is as shown in Figure 5-5 (utilizing two brush springs); be sure Brushes (39) are making proper contact with Collector Rings (10) throughout suspension tube rotation, and that Brushes and Collector Rings are free of dirt and other foreign substances that will prevent proper contact

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TABLE 3-1. (Continued)

PROBLEM	SUGGESTED CORRECTION
4. Continued	c. Centra 360: Remove Brush Holder Assembly (Par. 4-7 or 4-8 and Fig. 5-12) 1) Examine Collector Rings. Be sure Rings are free of dirt and other foreign substances that will prevent proper contact. 2) Reinstall Insulator Strip and Brush Holder (Fig. 5-12). Be sure that Insulator Strip does not rub against the Brush and that Insulator Strip spans the Brush Block.
5. Light intensity or beam pattern is poor	a. Clean Reflector and Heat Cylinder (Par. 2-2) b. Replace Heat Cylinder if it is clouded with a white substance c. Be sure Lamp is of the proper wattage, type and voltage (Para. 3-2, step 5); replace, if necessary d. Lamp age reduces efficiency of light output; replace, if necessary
6. Electrical leakage on track-mounted light is excessive	a. Equip Fixture with newly designed low-leakage Trolley Duct. Order items 2 and 4 from Figure 5-4; item 15 from Figure 5-5. (Use part numbers for equipment shipped after 3/73.) Instructions for making the change will be furnished with your order.

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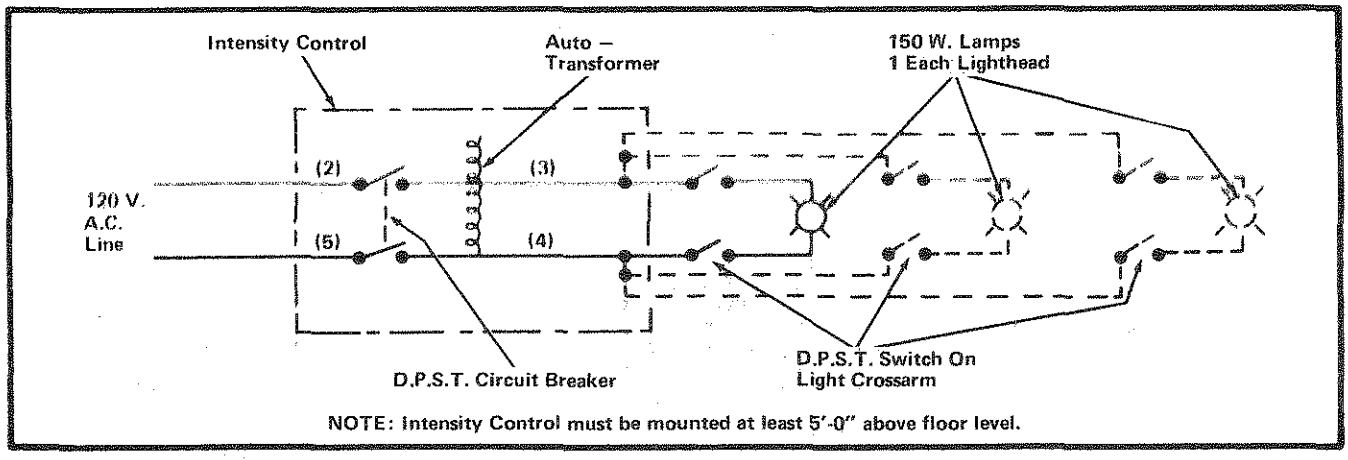

Figure 3-1. ELECTRICAL SCHEMATIC-LIGHTING FIXTURE, With Optional Variable Intensity Control.

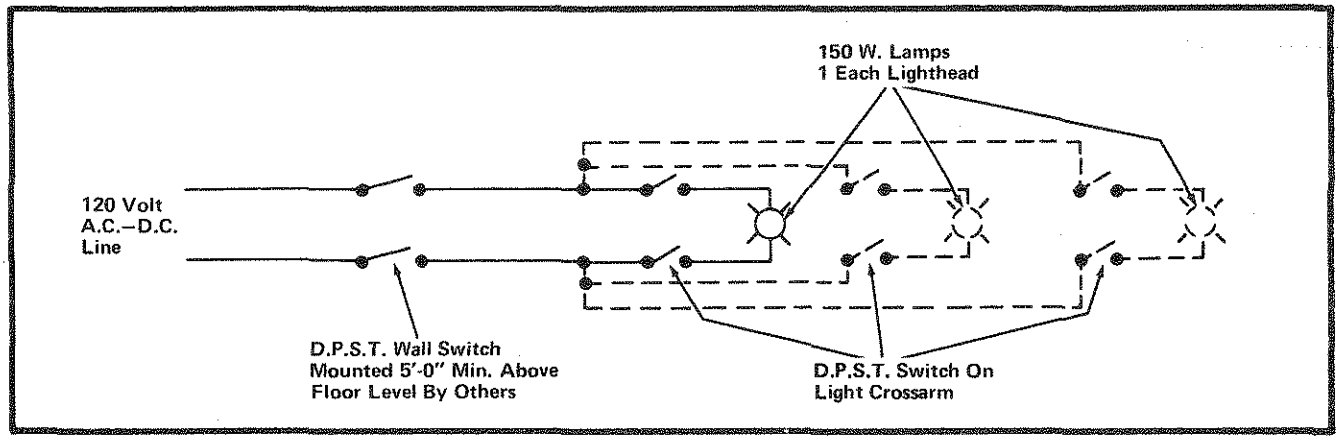
150 W. Lamps
1 Each Lighthead
120 Volt A.C.–D.C. Line
D.P.S.T. Wall Switch Mounted 5'-0" Min. Above Floor Level By Others
D.P.S.T. Switch On Light Crossarm

Figure 3-2. ELECTRICAL SCHEMATIC-LIGHTING FIXTURE, Without Variable Intensity Control.

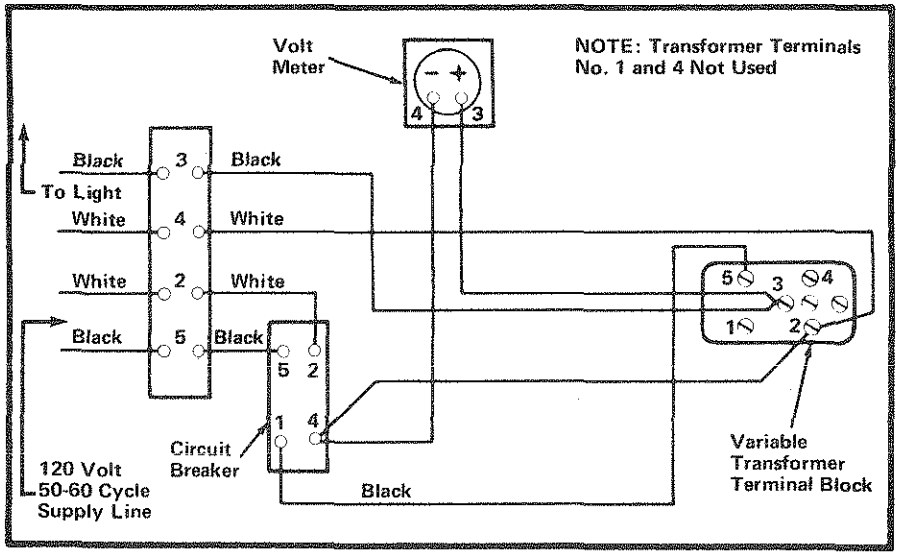

Figure 3-3. ELECTRICAL SCHEMATIC-OPTIONAL VARIABLE INTENSITY CONTROL.

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SECTION 4

COMPONENT REPAIR AND REPLACEMENT

4-1. GENERAL

This section includes instructions for the adjustment, disassembly, repair and replacement of selected components. Illustrations showing the various parts and assemblies referred to in this Section are in Section 5.

WARNING: BE SURE TO DISCONNECT POWER AT MAIN BREAKER AND ALLOW LIGHTHEAD(S) TO COOL BEFORE STARTING ANY OF THE FOLLOWING PROCEDURES.

4-2. LAMP REPLACEMENT PROCEDURE (Fig. 5-10)

1. Be sure power to fixture is off and lighthead is cool.

2. Loosen the two knurled thumb nuts (15) on top of lighthead at base of housing cap (17).

3. Lift cap and lamp (23) free of reflector (2) opening.

4. Unscrew old lamp from socket (5) and install a new one.

IMPORTANT: Use only the lamp specified for this lighthead. An improper lamp will alter the intended focus and beam pattern.

5. Reassemble items in reverse order.

4-3. LIGHTHEAD AND SUSPENSION TUBE

Removal

1. Be sure power to fixture is off and lighthead is cool.

2. Remove nameplate (Fig. 5-7, 12) from suspension fork (13). Disconnect the two supply wires.

3. Unscrew suspension tube collar (Fig. 5-6, 4) and, with lighthead well supported, drive holding pin (6) out of fork and tube (3). Carefully lower lighthead.

NOTE: The suspension tube collar referred to in step 3 was not threaded on earlier model lightheads. To expose holding pin, lift collar straight up.

4. Centra 360 lights: Remove black rubber cap (Fig. 5-12, 38) from support arm at top of suspension tube.

Centra And Other Lights Shipped Before 10/74

5. Slide unthreaded collar (Fig. 5-6, 1) at top of tube upward until groove pins (2) are exposed. Tape collar to hold it temporarily.

6. Drive one pin out approximately ¼″ and then remove it. Drive remaining pin out the other side.

Centra And Other Lights Shipped After 10/74

5. Drive out the center pin of each drive rivet (Fig. 5-6, 7).

6. Pry or drill out each drive rivet.

CAUTION: Be careful when removing pins so as not to damage wiring inside the tube.

7. Unthread suspension tube from fixture shaft. Place screwdriver through hole in shaft to prevent it from turning or if a Centra 360, remove rubber cap (Fig. 5-12, 38) from top of support arm and, using a 1-1/2″ offset box wrench or 9/16″ Allen wrench, hold shaft from turning.

8. Reassemble items in reverse order.

4-4. POWER SWITCH

NOTE: All lightheads are now equipped with double-pole, single-throw switches. Unless the switch to be replaced is single pole, single throw (furnished only on earlier models), replacement is by direct substitution. When ordering a replacement for the SPST model, specify conversion

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kit. Use the following instructions when making the conversion.

1. Be sure power to fixture is off.

2. Remove existing SPST switch.

3. Cut the supply wire that runs directly from suspension fork to lighthead. Connect both supply line wires to one side of new DPST switch as shown in Figure 4-1.

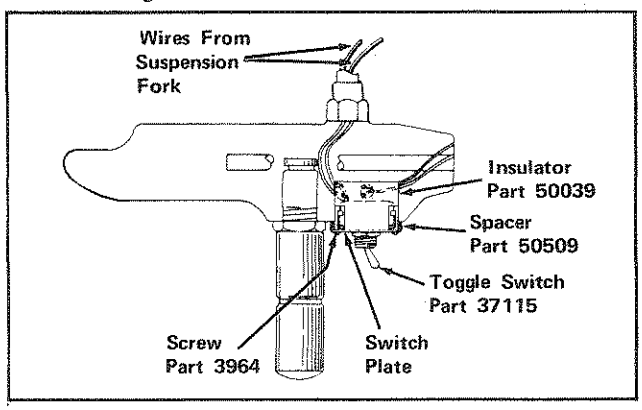

Figure 4-1. REPLACING SPST POWER SWITCH.

4. Connect remaining two wires from lighthead to opposite side of switch.

5. Install insulator, switch and spacer in control housing as shown in Figure 4-1 using existing switch plate and screws provided with conversion kit.

4-5. *OPTIONAL* VARIABLE INTENSITY CONTROL

Fusible Link

NOTE: Variable Intensity Controls shipped before 5/66 were equipped with a 3.5 amp Ohmite VT-4 transformer. A fusible link is located directly in back of the transformer terminal board. Should such a unit (Fig. 5-13) not function after an overload or short circuit, the fusible link (29) should be checked as follows:

1. Be sure power to unit is off.

2. Remove control knob from transformer shaft.

3. Remove screw at lower front of control panel and slip panel down to remove it from control box.

4. Refer to Figure 4-2; check for continuity between screws (A) and (3) as shown. If continuity does not exist, replace fusible link as follows:

a. Remove screws A, B and C.

b. Lift terminal board from transformer and turn over for access to fusible link.

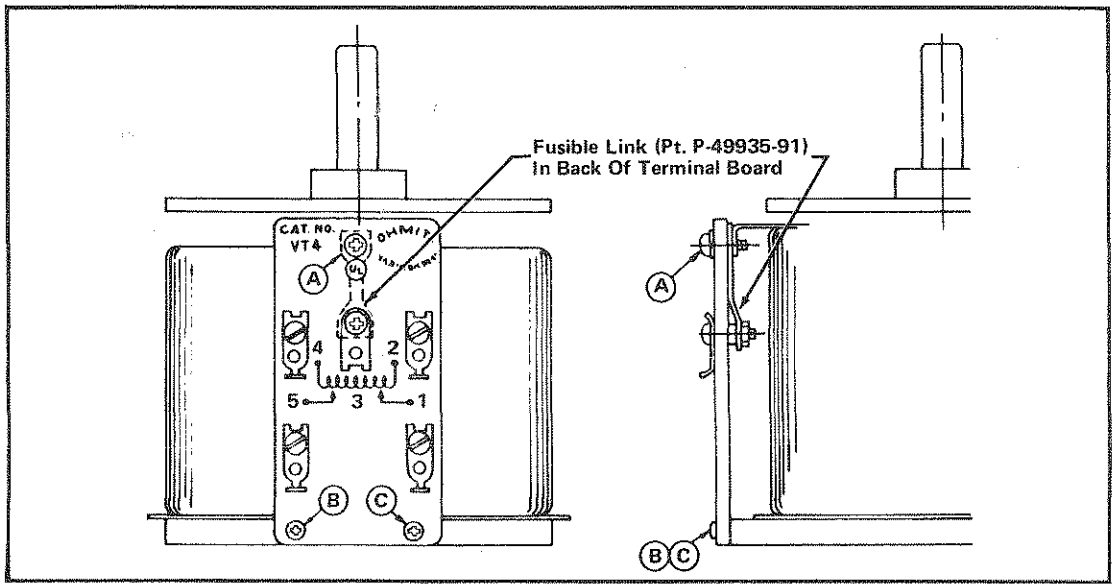

Figure 4-2. REPLACING FUSIBLE LINK ON VARIABLE INTENSITY CONTROL – Units Shipped Before 5/66.

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c. Remove and replace fusible link within the short black insulating sleeve between screw (A) and terminal (3).

5. Reassemble the Variable Intensity Control in reverse order.

4-6. CARRIAGE ASSEMBLY – TRACK-MOUNTED FIXTURE

NOTE: Adjustment or replacement of carriage-mounted items such as current collector ring and trolley assemblies will require removal of lighthead from carriage and carriage from track. To do so, proceed as follows.

1. Refer to Paragraph 4-3 and remove lighthead from fixture.

2. **Surface-mounted Track:**

a. Remove end plate (Fig. 5-4, 8) and angle stop (5) from track (1) at end opposite supply box (6).

b. Carefully roll carriage out of track and trolley out of trolley duct (2).

3. **Recessed Track:**

NOTE: The carriage may be removed from a recessed track in one of two ways. You may either (a) remove wheels and tilt carriage out of track or (b) remove track from ceiling.

a. **To remove carriage from track:**

- Move carriage to end of track (Fig. 5-4, 1) opposite supply box (6).
- Remove wheel and axle assemblies (Fig. 5-5, 16-23) from carriage (27).
- Lower carriage slightly and carefully slide trolley (15) out of trolley duct (Fig. 5-4, 2).
- Remove carriage and trolley assembly from track.

b. **To remove track (with carriage installed) from ceiling:**

- Remove finishing-trim strips from around track (Fig. 5-4, 1).
- Remove cover (10) from supply box (6) and disconnect supply lines.
- With track well supported, remove mounting hardware (4 places).
- Carefully lower track and carriage from ceiling.
- Remove carriage from track as described in step 2.

4. Reassemble items in reverse order. Make certain polarity on trolley and trolley duct are the same . . . see following before placing carriage and trolley assembly in track.

a. **For Equipment Shipped Prior to 3/73** (Fig. 5-5): The wire colors on the sliding collector must match the wires that are fastened to the copper strips in the Trol-E-Duct.

b. **For Equipment Shipped During and After 3/73** (Fig. 5-5): Wire colors are marked on both the trolley duct and trolley. Be sure the colors are matched when inserting the carriage into the track. Also, use caution when inserting the trolley in the trolley duct so as not to damage the sliding contacts on top of the trolley.

4-7. SUPPORT ARM OUTER PIVOT – CENTRA 360 (Fig. 5-12)

Brake Adjustment

1. Be sure power to fixture is off.

2. Remove cover assembly (42) from end of arm.

3. Using a 5/16″ Allen wrench, tighten or loosen adjustment screw (8) on brake assembly

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(36) until proper friction (when rotating lighthead and suspension tube) is obtained.

NOTE: Proper friction is only that amount required to prevent drift when lighthead is placed in a set position. Excessive friction will increase wear on brake lining and can cause noisy operation.

4. Replace cover assembly.

Brush Replacement

1. Be sure power to fixture is off.

2. Remove cover assembly (42) from end of arm.

3. Disconnect both wires from brush holder assembly (4). Secure wires (bend sideways) so that they will not slip into hub.

4. Remove the three screws which secure brush holder (39); remove brush holder from arm.

5. Slide brushes (3) out of brush holder and replace.

6. Examine collector rings (30) for burned spots, dirt, etc. and clean as necessary.

7. Reassemble items in reverse order. Be sure black wire is connected to top terminal on brush holder, white wire to bottom terminal, and insulator strip does not rub against brushes. Insulator strip should span the brush blocks.

Spindle and Collector Ring Removal

NOTE: If fixture is installed to a plastered or slab ceiling and clearance between top of support arm and ceiling is not sufficient for removing spindle assembly (approximately 8"), remove fixture from ceiling before proceeding (Par. 4-9).

1. Refer to Paragraph 4-3 and remove lighthead and suspension tube.

2. Refer to "Brush Replacement," this Paragraph, and remove brush holder assembly (4).

3. Remove cap screw (8) and spring washers (7) from brake assembly (36).

4. Bend back tab on lockwasher (28) at bottom of spindle (34) and using a spanner wrench, loosen locknut (27). Remove locknut, lockwasher and lower bearing (29) from spindle assembly.

5. Remove spindle and brake assemblies through opening in top of support arm.

NOTE: Follow steps 6, 7 and 8 only to remove collector rings from spindle.

6. Release strain relief at bottom of spindle by disassembling sealing grip (26).

7. Slide lower collector ring (30) downward while carefully pulling white wire through bushing (1) in side of spindle.

8. Carefully pull black wire out of bushing and then slide remaining collector ring off the spindle.

9. Reassemble items in reverse order. When replacing collector rings, be sure ring with black wire is placed on spindle first. Adjust screw on brake assembly for proper friction (see Brake Adjustment, this paragraph).

4-8. SUPPORT ARM CENTRAL PIVOT — CENTRA 360 (Fig. 5-12)

Brake Adjustment

1. Be sure power to fixture is off.

2. Remove cover assembly (9) from central hub.

3. Using a 5/16" Allen wrench, tighten or loosen adjustment screw (8) on brake assembly (15) until proper friction (when rotating support arm) is obtained.

NOTE: Proper friction is only that amount required to prevent drift when support arm is placed in a set position. Excessive friction will increase wear on brake lining and can cause noisy operation.

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4. Replace cover assembly.

Brush Replacement

1. Be sure power to fixture is off.

2. Remove cover assembly (9) from central hub.

3. Disconnect both wires from brush holder assembly (4). Secure wires (bend sideways) so that they will not slip into hub.

4. Remove the three screws which secure brush holder; remove brush holder from arm.

5. Slide brushes (3) out of brush holder and replace.

6. Examine collector rings (11) for burned spots, dirt, etc. and clean as necessary.

7. Reassemble items in reverse order. Be sure black wire is connected to top terminal on brush holder, white wire to bottom terminal, and insulator strip does not rub against brushes. Insulator strip should span the brush blocks.

Arm and Collector Ring Removal

NOTE: It is recommended (but not essential) that for installations with multiple lightheads, the entire fixture be lowered from ceiling before removing any arms . . . refer to Paragraph 4-9.

1. If fixture has not been lowered from ceiling, do the following:

a. Refer to Paragraph 4-3 and remove all lightheads. (Do this even if it is not intended to remove all arms.)

b. If a multiple arm assembly, equally space arms about hub to distribute load. Refer to "Brake Adjustment," this Paragraph, and tighten adjustment screw(s) to lock arm(s) in position.

c. Remove gasket (46) and ceiling canopy (47).

d. Disconnect wires to lighthead.

NOTE: For a multiple lighthead assembly, black and white wires feed first arm (top); red and red/white wires feed second arm (bottom arm on two-light assembly); and blue and blue/white wires feed third arm (bottom arm on three-light assembly).

2. Refer to "Brush Replacement" and remove brush holder assembly (4) from arm(s) to be removed.

3. Remove black rubber cap (24) from bottom of central hub.

4. Bend back tab on lockwasher (17) at bottom of shaft and using a spanner wrench, loosen locknut (16).

5. Support arm (if fixture was not removed from ceiling) and remove locknut, lockwasher, brake assembly (16), spacer ring (15) and lower bearing (2) from shaft.

NOTE: Lower arm will come off shaft when locknut is removed. Upper arms will drop approximately 1/4", but will not come off.

6. Carefully remove arm from shaft.

NOTE: Proceed to step 7 only if it is desired to remove collector rings or additional arm assemblies from shaft.

7. Remove screws (23) which secure end plate (22) to shaft. Lower end plate approximately 1" and remove wire restraint (21).

8. Slide lower collector ring (11) off the shaft while carefully pulling wire out of bushing (1).

9. Carefully pull remaining wire out of bushing and slide upper collector ring off the shaft. Remove plastic bushing.

10. To remove an upper arm assembly, proceed as follows:

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a. Support the arm if fixture was not removed from ceiling.

b. Remove brake assembly adjustment screw (8) and slide brake assembly (16) off the shaft.

c. Carefully remove arm from shaft.

11. Repeat steps 8 and 9 to remove collector rings; step 10 to remove uppermost arm, if applicable.

12. Reassemble items in reverse order. When replacing each pair of collector rings, be sure ring with black or solid-colored wire is placed on shaft first. Adjust brake assembly screw on each arm for proper friction (see Brake Adjustment, this paragraph).

4-9. REMOVAL OF FIXTURE FROM CEILING – CENTRA 360 (Fig. 5-12)

Removal

1. Refer to Paragraph 4-3 and remove lightheads and suspension tubes.

2. Remove gasket (46) from ceiling canopy (47) and canopy from ceiling. Disconnect leads at junction box.

3. If a multiple arm assembly, equally space arms about hub to distribute load. Refer to Paragraph 4-8 "Brake Adjustment" and tighten adjustment screw(s) to lock arm(s) in position.

WARNING: THE FOLLOWING STEP WILL REQUIRE A MEANS OF SUPPORTING FIXTURE WHILE ITS MOUNTING HARDWARE IS REMOVED. IF DONE PHYSICALLY, AT LEAST TWO MEN WILL BE REQUIRED TO HOLD THE FIXTURE WHILE A THIRD REMOVES THE HARDWARE.

4. Note and record proper alignment of mounting plate with ceiling extension bolts. With fixture adequately supported, remove its mounting hardware. Carefully lower fixture.

Reinstalling

WARNING: THE FOLLOWING PROCEDURE WILL REQUIRE A MEANS OF SUPPORTING FIXTURE WHILE ITS MOUNTING HARDWARE IS INSTALLED. IF DONE PHYSICALLY, AT LEAST TWO MEN WILL BE REQUIRED TO LIFT AND HOLD THE FIXTURE WHILE A THIRD INSTALLS THE HARDWARE.

1. Raise fixture to approximately 6" from ceiling. Align holes in mounting plate with ceiling extension bolts as noted in step 4 under "Removal," this Paragraph.

2. Be sure wires protruding from shaft in center of mounting plate are fed down through triangular cutout aligned with junction box.

3. Raise assembly over extension bolts. Using the four flat washers, lockwashers and hex nuts, secure plate . . . only hand-tighten nuts at this time. Pull wiring leads from junction box down through triangular cutout.

4. Using the 5/16" Allen wrench, loosen support arm brake adjustment screw(s), that were previously tightened, until arm(s) swing freely.

5. Place a spirit level on top of support arm. Using an open-end wrench, adjust hex nuts above and below mounting plate to level support arm(s) and eliminate arm drifting.

WARNING: BE SURE THAT LOWER NUTS ARE FULLY ENGAGED ON EXTENSION BOLTS. ALLOW AT LEAST 1/16" FROM BOTTOM OF NUT TO END OF BOLT.

6. After leveling arm(s), rotate to alternate 90° positions and check for drift at each stop . . . readjust and tighten nuts as required.

7. Connect wires at junction box as follows:

a. Connect green wire from under round-head screw on bottom of mounting plate to grounding wire in junction box.

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b. Using wire nuts, connect white wire and striped wires (if applicable) to common side of service in junction box.

c. Using wire nuts connect black wire and solid-colored wires (if applicable) to hot side of service in junction box.

d. Tape wire nuts to wires and neatly place connections in junction box.

8. Reinstall canopy and gasket. (**Note:** If gasket was removed from fixture, place arms in vertical alignment and loop gasket over them, making sure slotted side will face floor when installed.)

9. Reassemble suspension tubes and lightheads in reverse order of disassembly (Par. 4-3).

10. Turn light(s) on and slowly rotate each assembly about both pivot points to be sure fixture is working properly and connections are secure. Adjust support arm brake assembly for proper friction (see Brake Adjustment, Paragraph 4-8).□□

SECTION 5

ILLUSTRATIONS AND PARTS LISTS

The following pages contain an illustrated breakdown of selected assemblies. To order replacement parts, use the part numbers and descriptions provided on the subsequent parts lists. The numbers, descriptions and quantities of the parts listed are those required for a single Fixture. Each indentation in the description represents the assembly or subassembly level. The UNITS PER ASSEMBLY is specific for the given top assembly. Include on your order the model, unit and serial numbers of the equipment. Also, where applicable, include component manufacturer and nameplate data.

HOW TO USE SECTION 5

1. Determine the function and application of the part required. Refer to Figure 5-1 and select the most appropriate title. Note the illustration page number.

2. Turn to the page indicated and locate the desired part on the illustration.

3. From the illustration, obtain the index number assigned to the part desired. Refer to the accompanying description for specific information regarding the part. □ □

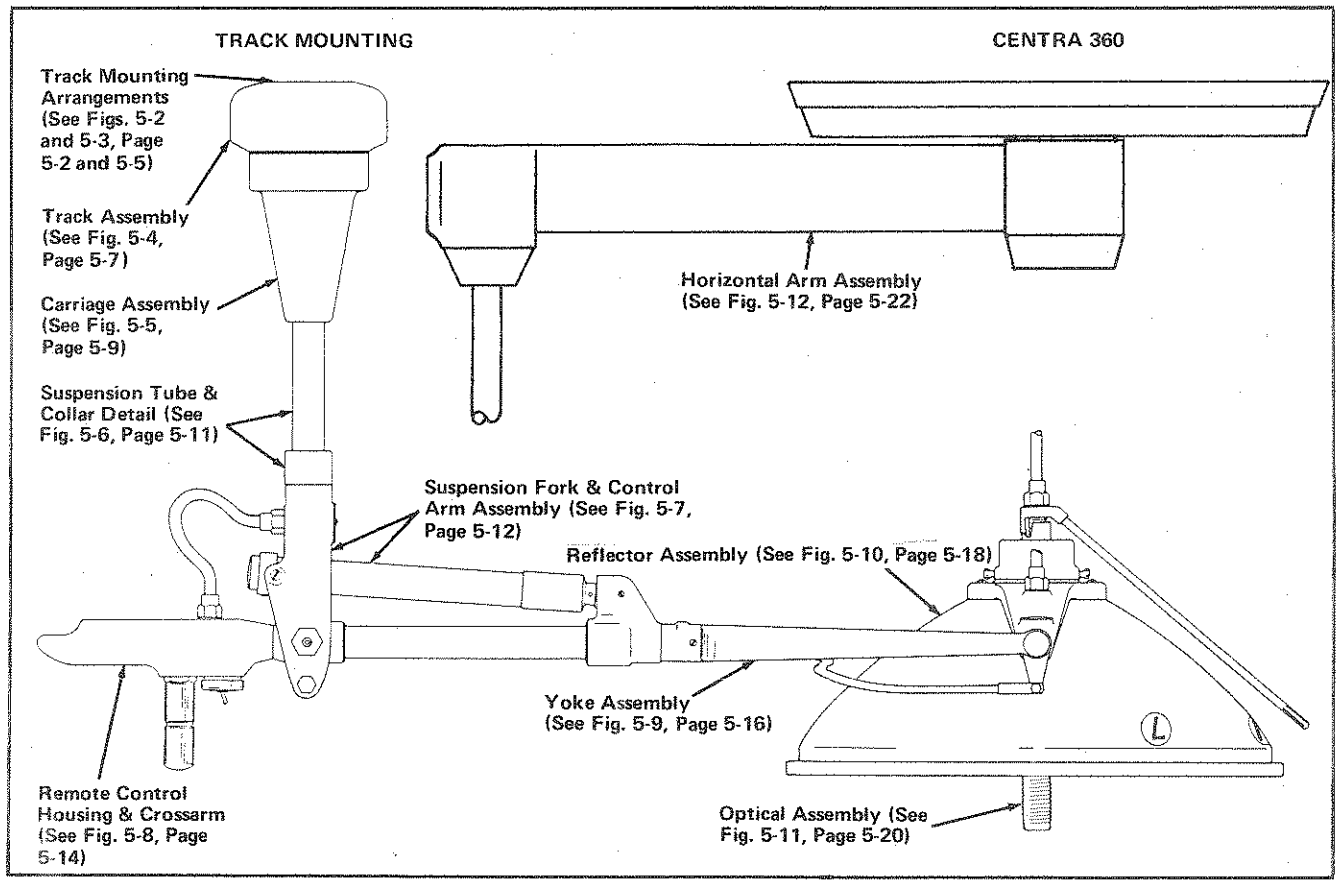
TRACK MOUNTING
CENTRA 360
Track Mounting Arrangements (See Figs. 5-2 and 5-3, Page 5-2 and 5-5)
Track Assembly (See Fig. 5-4, Page 5-7)
Carriage Assembly (See Fig. 5-5, Page 5-9)
Suspension Tube & Collar Detail (See Fig. 5-6, Page 5-11)
Horizontal Arm Assembly (See Fig. 5-12, Page 5-22)
Suspension Fork & Control Arm Assembly (See Fig. 5-7, Page 5-12)
Reflector Assembly (See Fig. 5-10, Page 5-18)
Yoke Assembly (See Fig. 5-9, Page 5-16)
Remote Control Housing & Crossarm (See Fig. 5-8, Page 5-14)
Optical Assembly (See Fig. 5-11, Page 5-20)

Figure 5-1. GENERAL ASSEMBLY.

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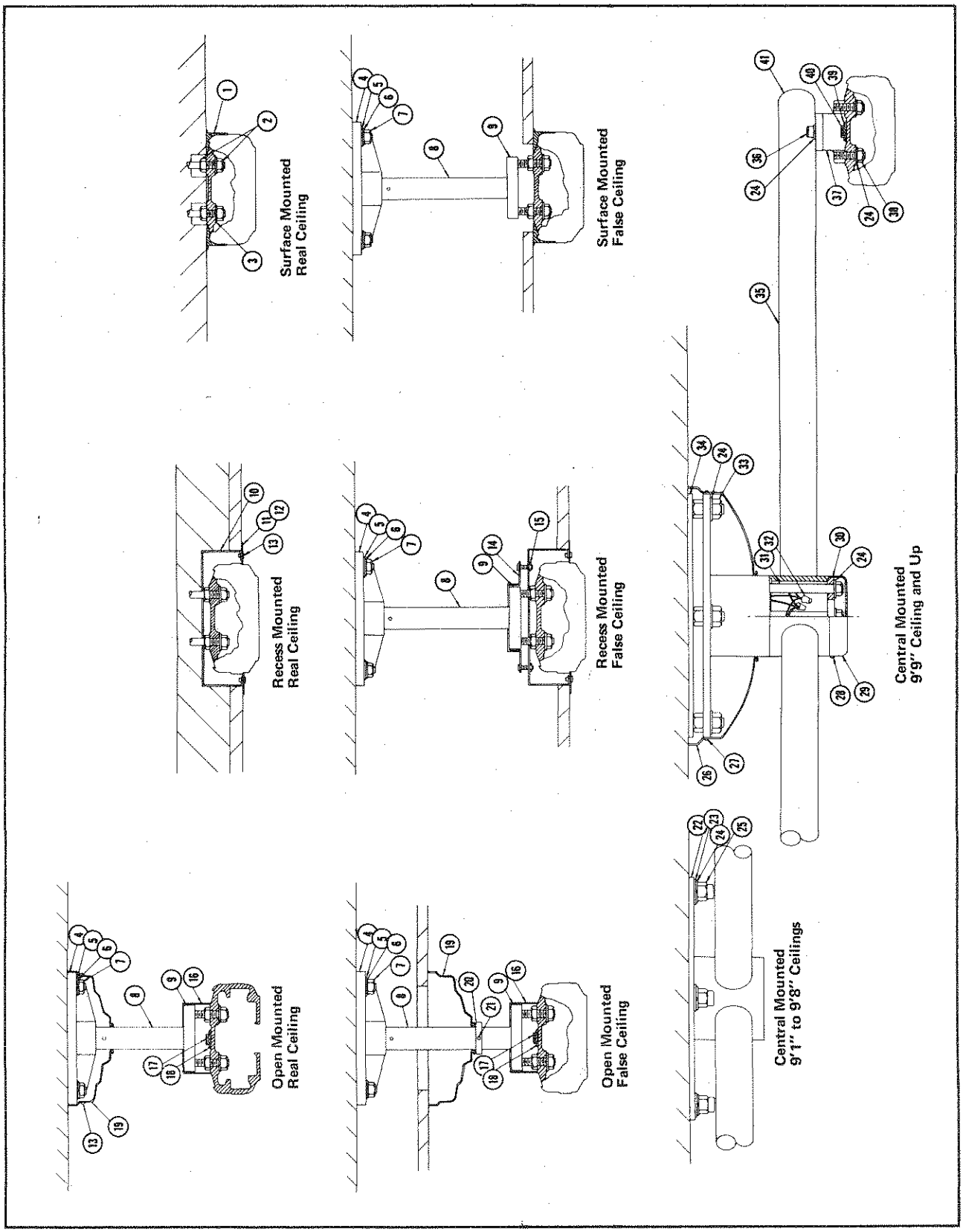

Figure 5-2. TRACK MOUNTING ARRANGEMENTS (Models DV-22-E and C-22-E).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-2-		TRACK MOUNTING ARRANGEMENT (Model DV-22-E)	*			
		TRACK MOUNTING ARRANGEMENT (Model C-22-E)		*		
1	46793-091	GASKET, Finishing	4	2		
2	3101-091	NUT, Hex – 1/2″ – 13	16	8		
3	19681-045	LOCKWASHER – 1/2″	8	4		
4	27426-020	PLATE, Ceiling	4	2		
5	5505-041	WASHER, Plain – 1/2″	16			
	5505-041	WASHER, Plain – 1/2″		8		
6	19681-045	LOCKWASHER – 1/2″	16			
	19681-045	LOCKWASHER – 1/2″		8		
7	3101-091	NUT, Hex – 1/2″ – 13	16			
	3101-091	NUT, Hex – 1/2″ – 13		8		
8		TUBE, Suspension (Length and Part No. determined by ceiling height)	2	1		
9	41239-045	PAD, Mounting (Assembly)	4	2		
10	40809-020	ROUGH BOX	2	1		
11	76925-033	TRIM, Side	4	2		
12	76915-033	TRIM, End	4	2		
13	10859-041	SCREW, Truss Head – #10-32 x 5/16″	28	14		
14	45018-045	BRACKET	4	2		
15	3097-041	NUT, Hex – 1/4″ – 20 N.C.	8	4		
16	41237-010	COVER	4	2		
17	41238-010	SHIELD, Wire	2	1		
18	3983-041	SCREW, Round Head – #6-32 x 3/16″	12	6		
19	27430-010	CANOPY	4	2		
20	27735-051	COLLAR, Canopy	4	2		
21	10585-041	SCREW, Set – #10-32 x 1/4″ Cup	8	4		
22	26831-010	PLATE, Ceiling	1			
23	5460-045	WASHER, Plain – 5/8″	4			
24	19682-041	LOCKWASHER – 5/8″	24			
25	25833-048	NUT, Acorn – 5/8″	4			
26	32764-010	CANOPY	1			
27	16063-042	SCREW, Truss Head – #8-32 x 7/16″	4			
28	34585-041	SCREW, Fillet Head – #5-40 x 1/4″	2			
29	26659-010	CAP	1			
30	26661-045	PLATE	1			
31	26304-045	CAPSCREW, Hex Head – 5/8″ – 18 x 5-1/2″	4			
32	18538-091	CONNECTOR	2			
33	3104-045	NUT, 5/8″	8			
34	21645-010	*LEVELING PLATE*	1			
35	32581-010	HANGER ASSEMBLY	1			
36	32020-041	SCREW, Socket Head – 5/8″ – 11 x 1-1/2″	8			
37	41241-010	PAD, Mounting	4			
38	4643-045	CAPSCREW, Hex Head – 1/2″ – 13 x 1-1/2″	8			
39	3983-041	SCREW, Round Head – 5/8″ – 11 x 1-1/2″	12			

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-2- 40	41238-010	SHIELD, Wire	2			
41	26577-010	BUTTON, Plug	4			

Service Bulletin Number						

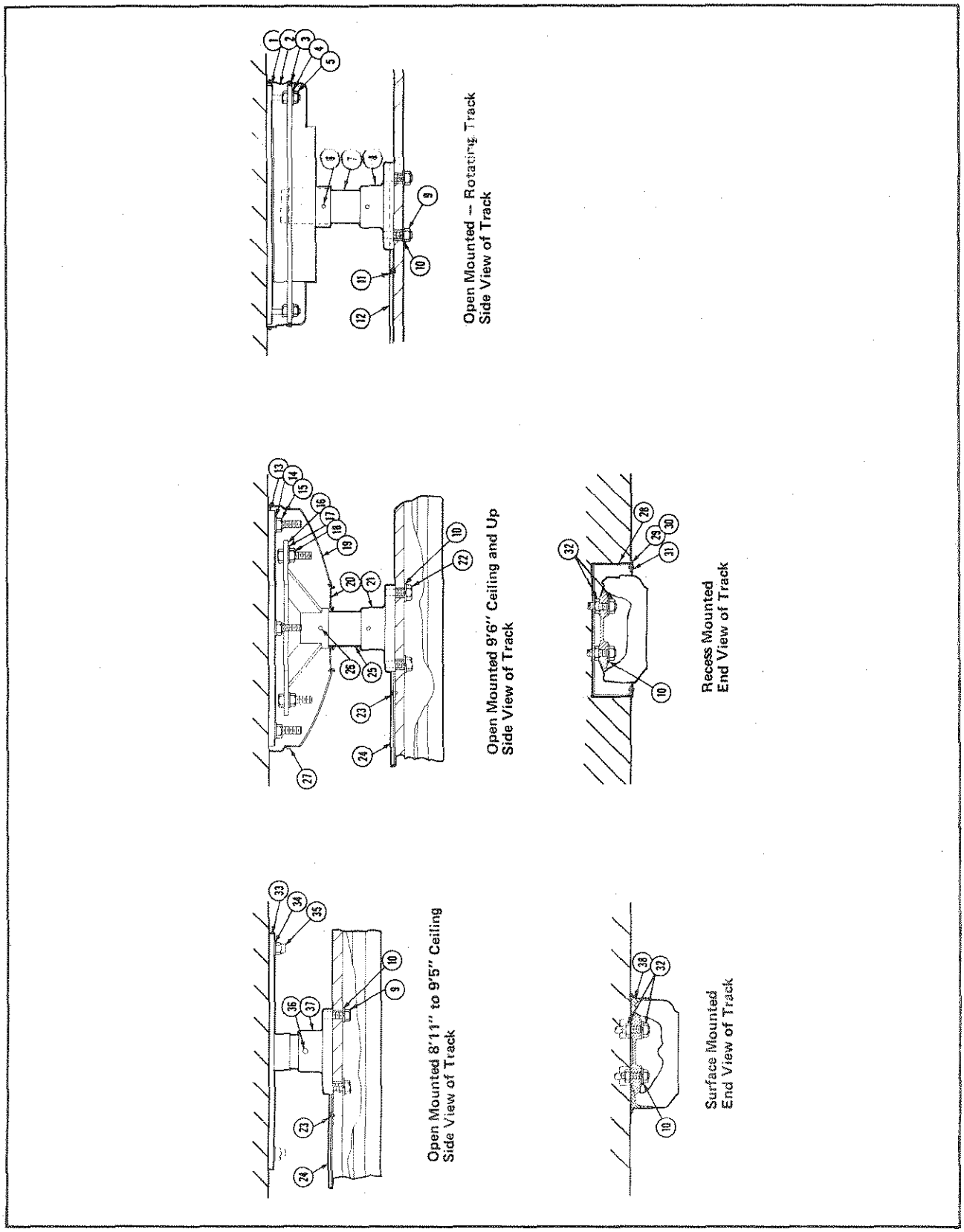

Open Mounted -- Rotating Track
Side View of Track
Open Mounted 9'6" Ceiling and Up
Side View of Track
Recess Mounted
End View of Track
Open Mounted 8'11" to 9'5" Ceiling
Side View of Track
Surface Mounted
End View of Track

Figure 5-3. TRACK MOUNTING ARRANGEMENTS (Model C-22-T5).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-3-		MOUNTING ARRANGEMENTS (Model C-22-T5)	*
1	30439-010	ROTATING MECHANISM	1
2	20295-010	CANOPY, Split	1
3	16063-042	SCREW, Truss Head – No. 8-32 x 7/16″	4
4	19681-045	LOCKWASHER – 1/2″	12
5	3101-091	NUT, Hex – 1/2″	8
6	46156-061	PIN, Roll – 5/16″ x 3/4″	4
7		TUBE, Suspension (Length and Part No. determined by ceiling height)	1
8	42140-010	PAD, Mounting	1
9	4643-045	SCREW, Hex Head	4
10	19681-045	LOCKWASHER – 1/2″	4
11	3983-041	SCREW, Round Head	6
12	42249-010	SHIELD, Wire	1
13	21645-010	LEVELING PLATE	1
14	19681-045	LOCKWASHER – 1/2″	4
15	3101-091	NUT, Hex	4
16	18600-010	CEILING, Spider	1
17	19682-041	LOCKWASHER – 5/8″	4
18	3104-045	NUT, Hex – 5/8″	8
19	32764-010	CANOPY, Standard	1
20	32768-010	FILLER, Canopy	1
21	42140-010	PAD, Mounting	1
22	4643-045	SCREW, Hex Head	4
23	3983-041	SCREW, Round Head – No. 6-32 x 3/16″	6
24	42249-010	SHIELD, Wire	1
25		TUBE, Suspension (Length and Part No. determined by ceiling height)	1
26	46156-061	PIN, Roll – 5/16″ x 3/4″	4
27	16063-042	SCREW, Truss Head – No. 8-32 x 7/16″	4
28	42122-020	ROUGH Box	1
29	76915-033	TRIM, End	2
30	76924-033	TRIM, Side	2
31	10859-041	SCREW, Truss Head	10
32	3101-091	NUT, Hex – 1/2″	8
33	24472-010	CEILING PLATE	1
34	19681-045	LOCKWASHER	4
35	5937-048	ACORN NUT	4
36	46156-061	PIN, Roll – 5/16″ x 3/4″	2
37	42140-010	PAD, Mounting	1
38	46794-091	GASKET, Finishing	2

Service Bulletin Number						

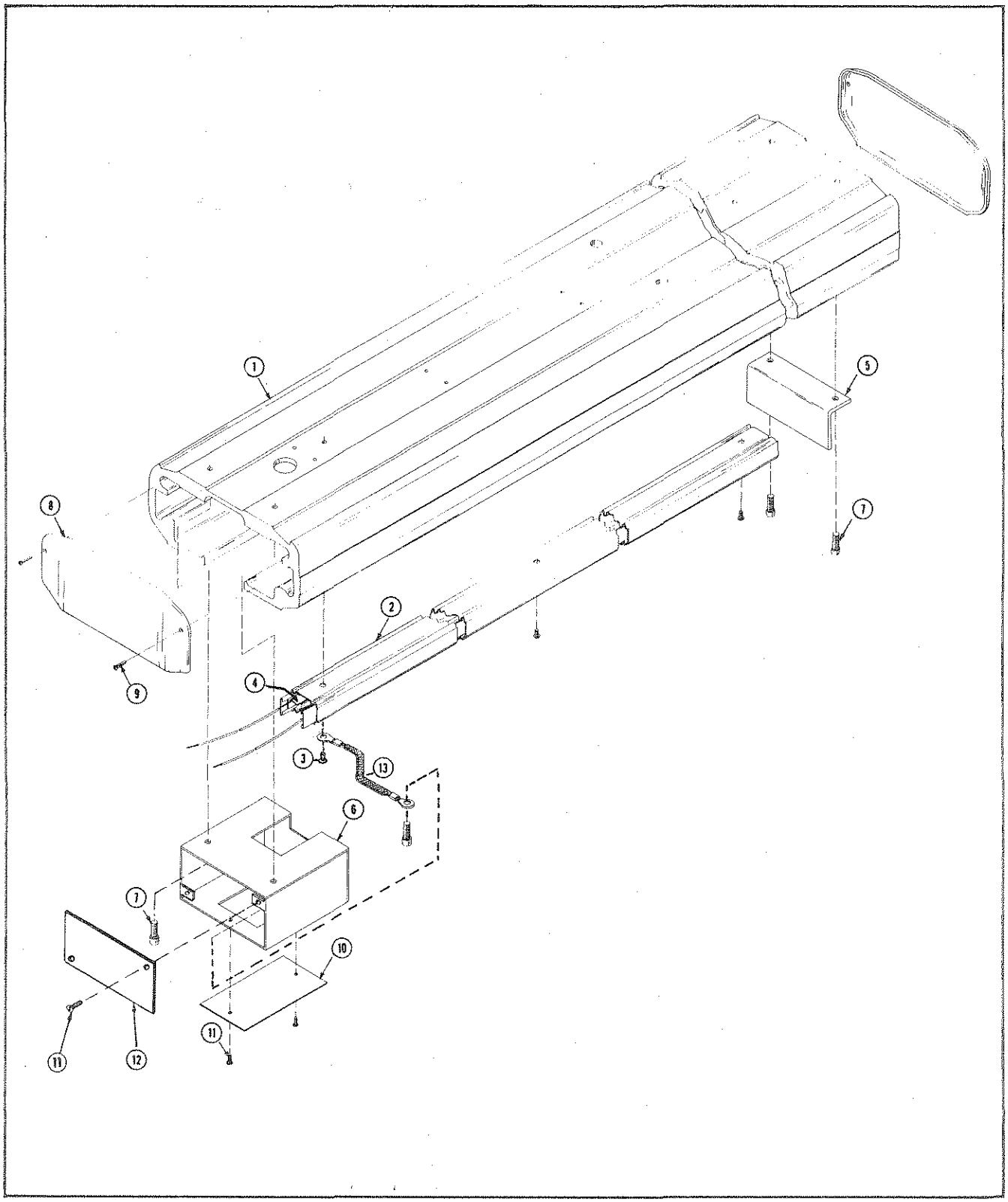


Figure 5-4. TRACK ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-4		TRACK ASSEMBLY, 108″ (For Equipment Shipped Before 3/73)	*			
	135839-001	TRACK ASSEMBLY, 108″ (For Equipment Shipped After 3/73)		*		
	135839-002	TRACK ASSEMBLY, 54″ (For Equipment Shipped After 3/73)			*	
1	53642-010	TRACK (108″)	1	1		
	46795-010	TRACK (54″)			1	
2	40399-091	DUCT, Trolley (108″)	1			
	† 92391-001	DUCT, Trolley (108″)		1		
	† 55974-001	DUCT, Trolley (54″)			1	
3	10859-041	SCREW, Truss Head – No. 10-32 x 5/16″	7	13	7	
	10863-091	LOCKWASHER (Not Shown)	3			
4	92390-001	STRIP, Ground (108″)		1		
	55987-001	STRIP, Ground (54″)			1	
5	43608-045	STOP	1	1	1	
6	53133-045	BOX, Supply	1	1	1	
7	3847-042	SCREW, Socket Head	4	4	4	
8	40397-010	PLATE, End	2	2	2	
9	41923-041	SCREW, Oval Head	4	4	4	
10	46173-045	COVER	1	1	1	
11	40357-045	SCREW, Self Tapping	2	4	4	
12	79468-045	PLATE, Cover		1	1	
13	‡ 80541-091	STRAP, Ground			1	
	82323-001	NAMEPLATE (Black) – Not Shown		1	1	
	82324-001	NAMEPLATE (White) – Not Shown		1	1	
	82349-001	NAMEPLATE (Warning) – Not Shown		1	1	

†NOTE 1: If the plastic trolley duct (92391-001 or 55974-001, item 2) is removed from the light track for any reason, replace the duct; do not attempt to repair it in the field. Never use a Loctite product to secure the screws fastening the plastic trolley duct and stainless-steel strip to the light track. Apply R.T.V.® (General Electric's general purpose adhesive) to the screw threads.

‡NOTE 2: Grounding strap (item 13) has been added to the light track assembly to ensure grounding of the plastic trolley duct. It is not necessary to add this strap to units shipped before 9-12-74 because their tracks were checked for proper grounding before being shipped.

Service Bulletin Number						

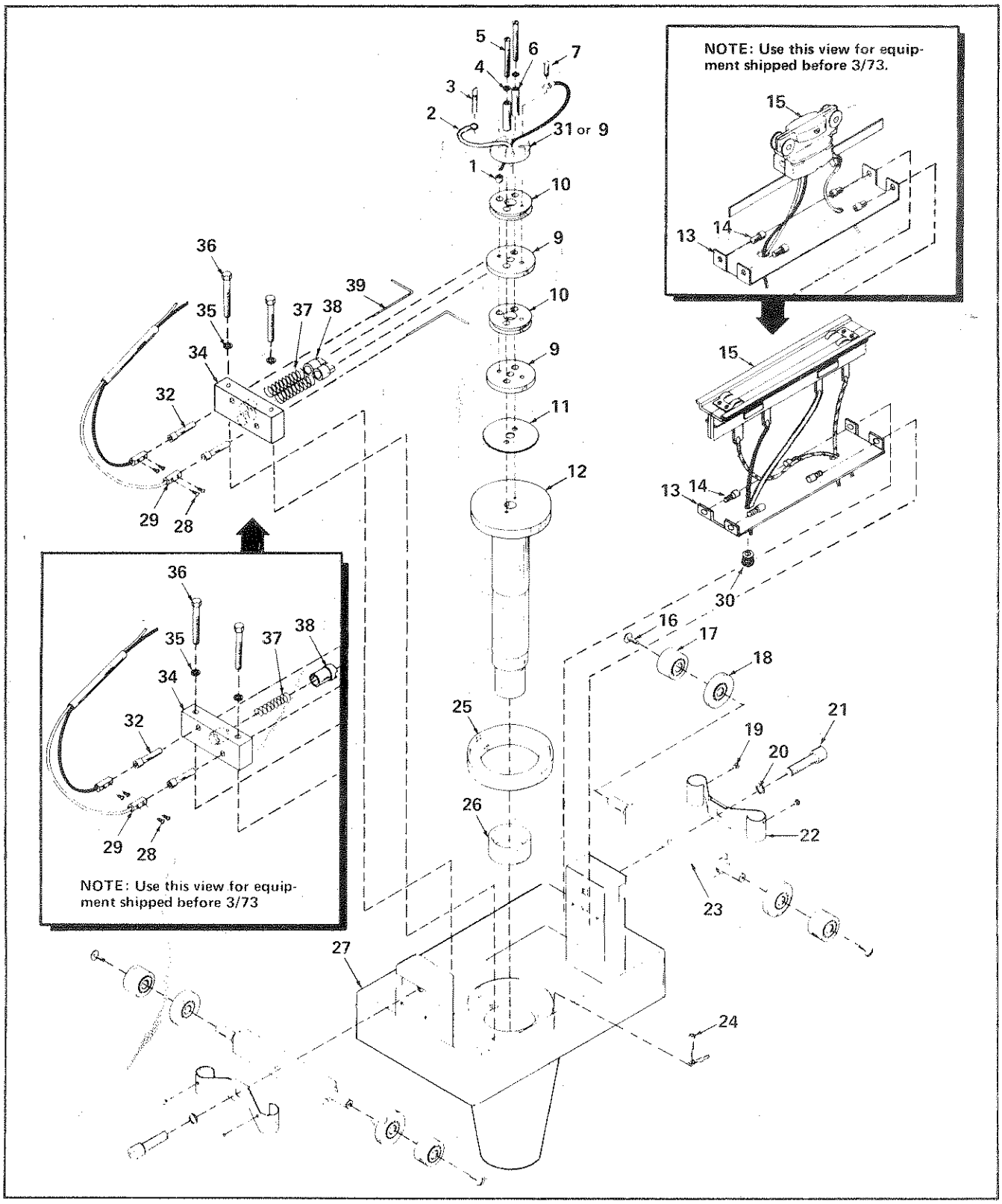


Figure 5-5. CARRIAGE ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-5-		CARRIAGE ASSEMBLY (For Equipment Shipped Before 3/73)	*			
	135840-001	CARRIAGE ASSEMBLY (For Equipment Shipped After 3/73)		*		
1	41926-091	INSULATOR	1	1		
2	40838-091	WIRE, White	1			
	79972-001	WIRE ASSEMBLY (Includes both wires)		1		
3	38569-041	SCREW, Round Head – No. 8-32 x 1"	1	1		
4	5508-041	WASHER, Plain – 3/16"	2	2		
5	12341-041	SCREW, Round Head – No. 10-32 x 1-1/2"	2	2		
6	40382-091	SPOOL, Bakelite	2	2		
7	3986-041	SCREW, Round Head – No. 8-32 x 1/2"	1	1		
8	40839-091	WIRE, Black	1			
9	43611-091	WASHER, Bakelite	3	3		
10	40381-091	RING, Collector	2	2		
11	43606-091	INSULATOR	1	1		
12	40387-043	ARM, Suspension	1	1		
13	43607-045	COVER	1	1		
14	23431-041	SCREW, Socket Head – No. 10-32 x 3/8"	4	4		
15	40388-091	TROLLEY	1			
	135838-001	TROLLEY		1		
16	10859-041	SCREW, Truss Head	4	4		
17	40376-001	WHEEL	4	4		
18	40377-001	GUIDE, Wheel	4	4		
19	34506-091	BUMPER	4	4		
20	19687-061	LOCKWASHER – 3/8"	2	2		
21	15339-045	SCREW, Socket Head – 3/8" – 16 x 1-1/4"	2	2		
22	49081-091	BUMPER, Carriage	2	2		
23	40375-045	SHAFT	2	2		
24	4777-091	SCREW, Fillister Head – No. 8-32 x 3/8"	1	1		
25	40379-091	BUSHING, Oilite	1	1		
26	41506-091	BEARING	1	1		
27	40373-010	CARRIAGE	1	1		
28	3982-041	SCREW, Round Head – No. 4-32 x 3/16"	4	4		
29	40391-091	CONNECTOR	2	2		
30	20343-091	GROMMET		1		
31	79968-002	WASHER, Top		1		
32	40383-091	SLEEVE, Wire	2	2		
33		Not Used				
34	43610-045	RETAINER	1			
	81660-001	RETAINER		1		
35	19686-061	LOCKWASHER – 1/4"	2	2		
36	4729-091	SCREW, Hex Head – 1/4-20 x 1-1/2"	2	2		
37	40386-091	SPRING	1			
	12461-042	SPRING		2		
38	43609-091	CAP	2			
	81663-001	CAP		2		
39	40384-091	BRUSH, Wire	2	2		

Service Bulletin Number						

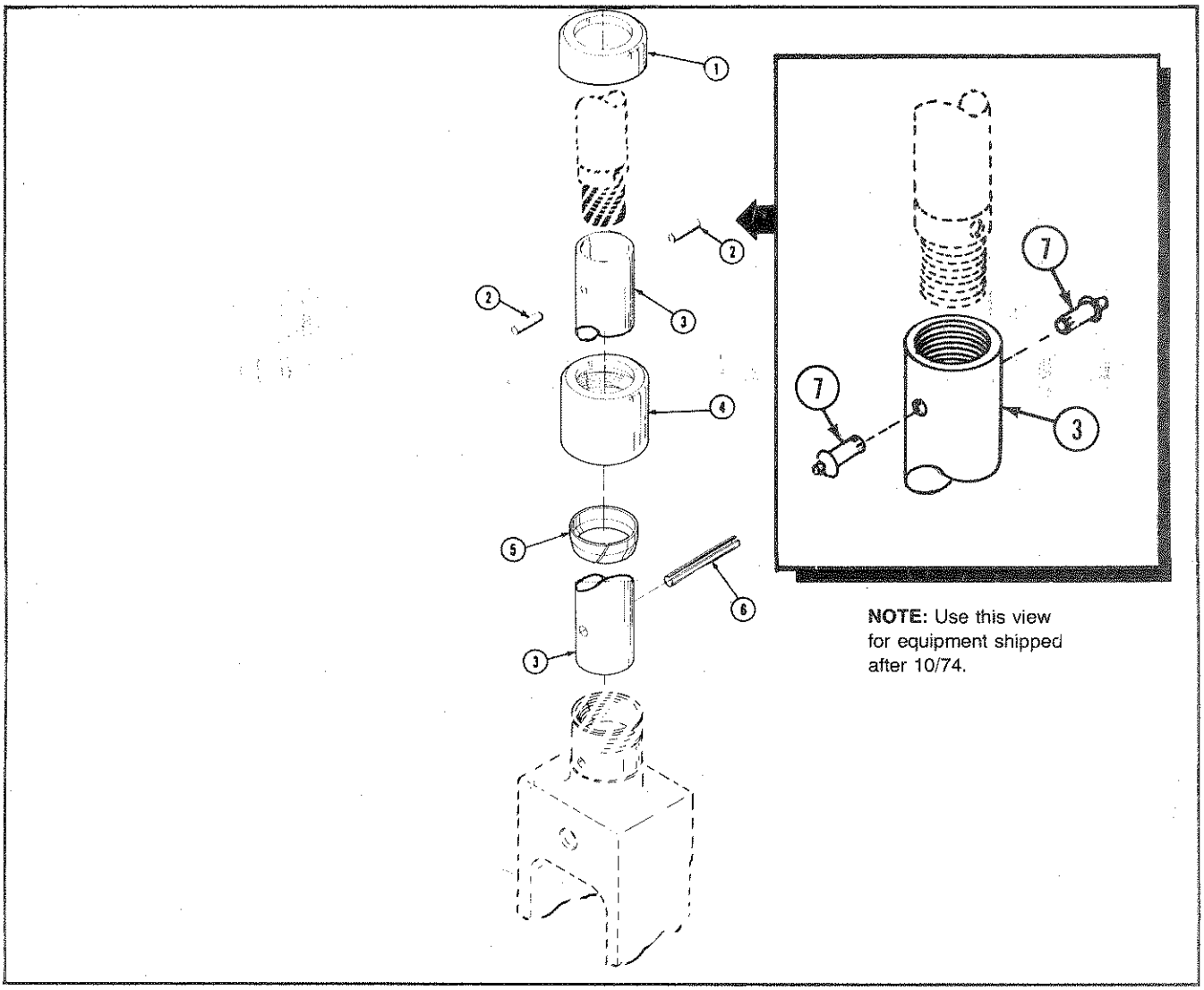


Figure 5-6. SUSPENSION TUBE AND COLLAR DETAIL.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-6		SUSPENSION TUBE AND COLLAR DETAIL	*
1	82354-001	COLLAR, Unthreaded (For Equipment Shipped Before 10/74)	1
2	48414-061	PIN, Groove — 1/4″ x 3/4″ (For Equipment Shipped Before 10/74)	2
3	49728-056	TUBE, Suspension (50″ long — cut length for ceiling height)	1
4	49219-056	COLLAR, Threaded	1
5	49220-045	RING, Clamp	1
6	43225-061	PIN, Roll — 5/16″ x 2″	1
7	82672-001	RIVET, Drive (For Equipment Shipped After 10/74)	2

Service Bulletin Number						

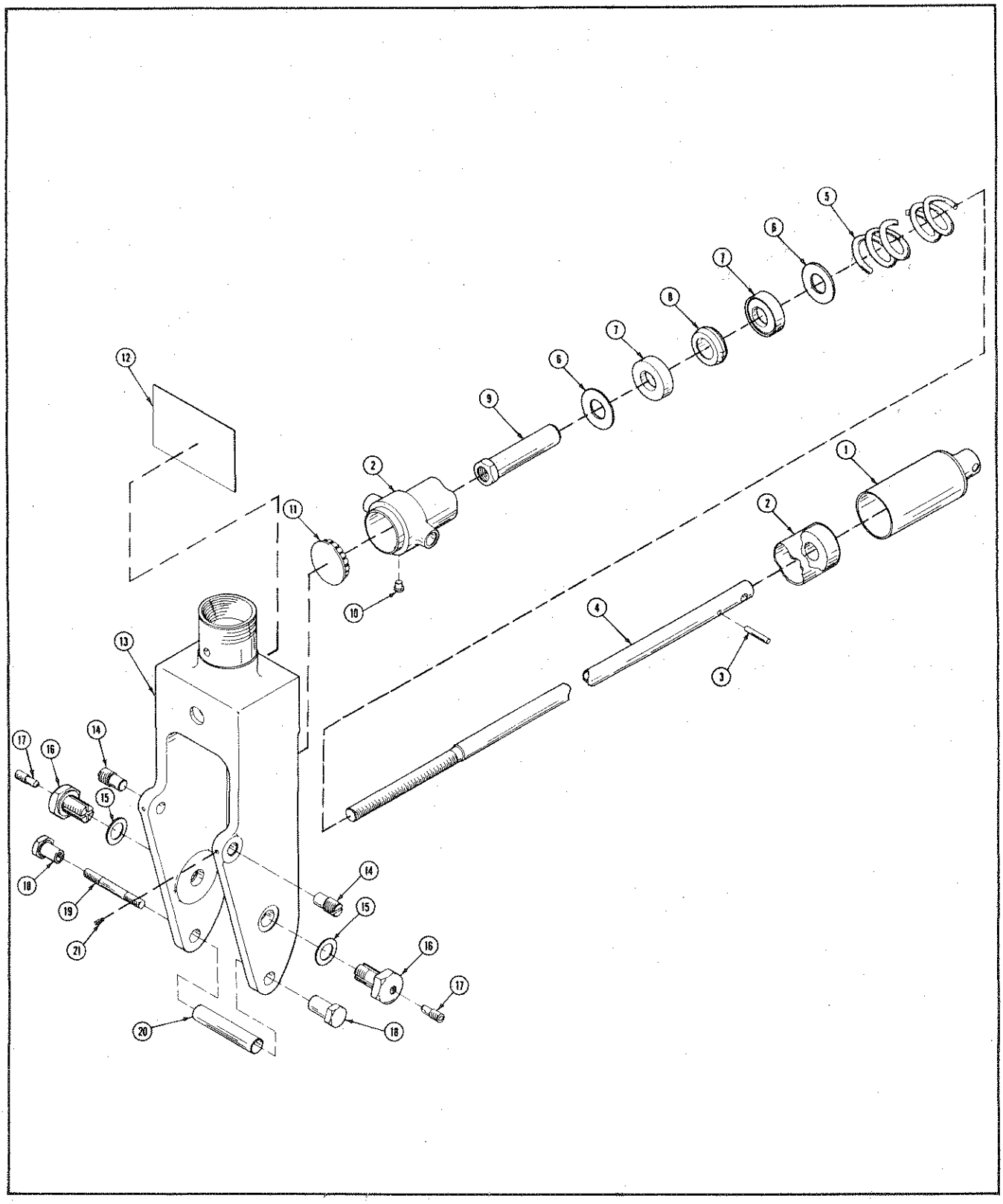


Figure 5-7. SUSPENSION FORK AND CONTROL ARM ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-7-		SUSPENSION FORK AND CONTROL ARM ASSEMBLY	*
1	41104	SLEEVE (For Equipment Shipped Before 1/74)	1
	79053-056	SLEEVE (For Equipment Shipped After 1/74)	1
2	40422	TUBE, Spring	1
3	24956	PIN, Roll	1
4	40416	ROD, Control (For Equipment Shipped Before 1/74)	1
	79054-045	ROD, Control (For Equipment Shipped After 1/74)	1
5	26581	SPRING	1
6	40429	WASHER	2
7	40430	BUSHING	2
8	40437	SPACER	1
9	40438	NUT, Adjusting	1
10	41551	BUMPER	1
11	36700	PLUG, Button	1
12	46359	NAMEPLATE	1
13	54098	FORK	1
14	40426	SCREW	2
15	18880	WASHER	2
16	17468	NUT, Post	2
17	18881	SETSCREW (For Equipment Shipped Before 1/74)	2
	18882-091	SETSCREW (For Equipment Shipped After 1/74)	2
18	17629	NUT, Special	2
19	17630	STUD	1
20	19171	SLEEVE	1
21	10583	SETSCREW	2

Service Bulletin Number						

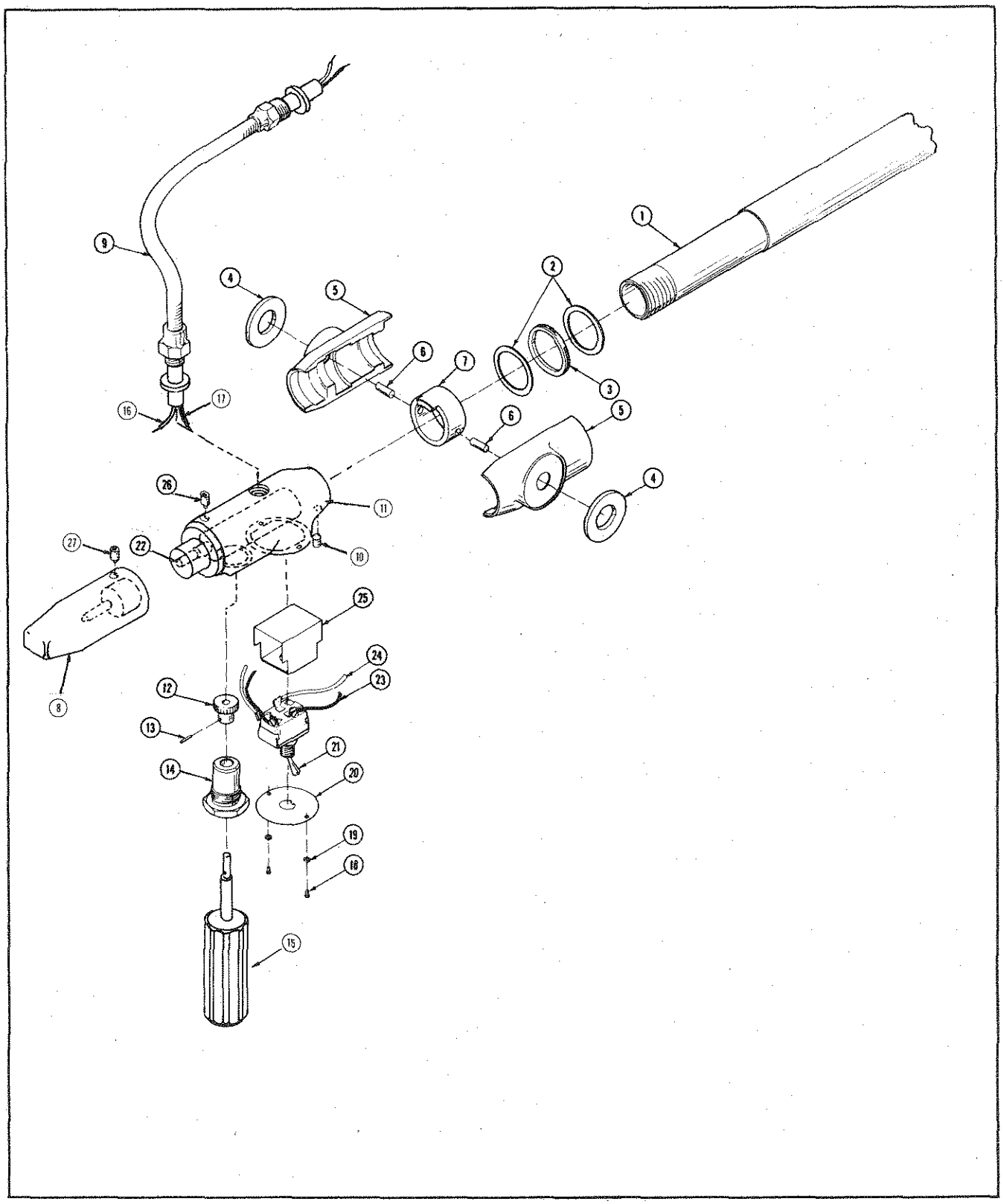


Figure 5-8. REMOTE CONTROL HOUSING AND CROSSARM ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-8		REMOTE CONTROL HOUSING AND CROSSARM ASSEMBLY	*
1	40420-056	CROSSARM	1
2	40440-061	WASHER, Thrust	4
3	40441-091	RETAINER,Bearing	2
4	10497-091	WASHER	1
5	40419-056	SWIVEL (Comes in two parts)	1
6	26696-061	PIN, Groove	2
7	27506-091	RING	1
8	50692-056	HOUSING, Extension	1
9	92503-001	CONDUIT AND WIRE ASSEMBLY (Do not replace individual wires)	1
10	4772-045	SETSCREW	3
11	50692-056	HOUSING, Switch	1
	78698-091	HANDLE ASSEMBLY (Includes items 12-15)	1
12	11889-091	• PINION	1
13	11913-061	• GROOVE PIN	1
14	26676-056	• BEARING	1
15	75234-091	• HANDLE-TWIST	1
16	48763-091	WIRE, White	1
17	48770-091	WIRE, Black	1
18	12451-041	SCREW, Round Head — No. 6-32 x ¼″	2
19	19684-061	LOCKWASHER	2
20	40443-091	PLATE, Switch	1
21	37115-091	SWITCH, Toggle — DPST	1
22	74262-091	SHIELD, Rack	1
23	48765-091	WIRE, Black	1
24	48764-091	WIRE, White	1
25	50039-091	INSULATOR	1
26	10585-091	SETSCREW	1
27	24222-061	PIN, Roll	1

Service Bulletin Number						

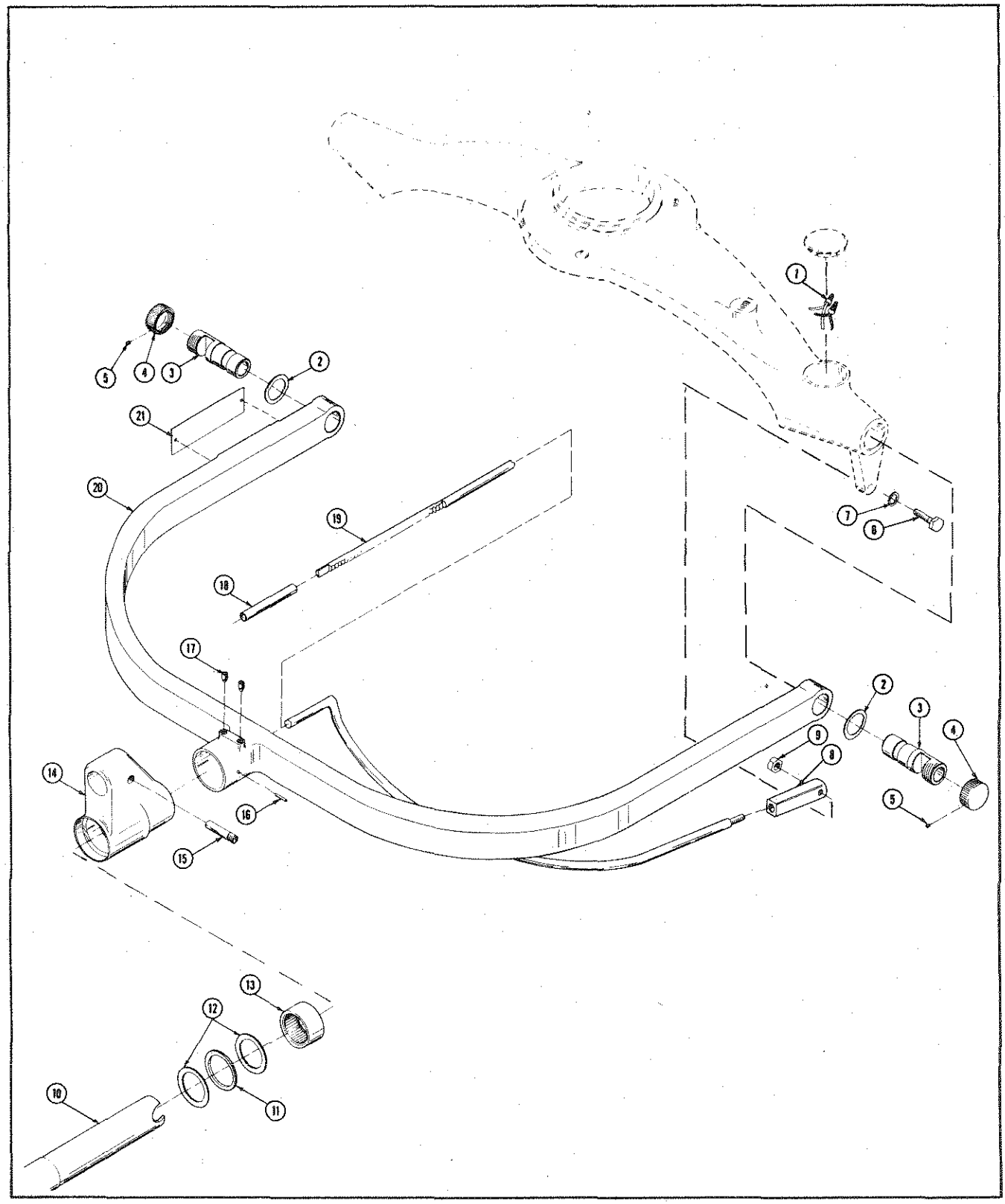


Figure 5-9. YOKE ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-9-		YOKE ASSEMBLY	*
1	18638-091	CONNECTOR	6
2	10413-091	WASHER	4
3	10414-045	BEARING	2
4	10817-056	COLLAR	2
5	27159-091	SETSCREW	2
6	26306-056	SCREW, Special	1
7	17451-091	WASHER	1
8	26674-056	CONNECTOR	1
9	31713-045	NUT	1
10	40420-056	CROSSARM	1
11	40441-091	RETAINER, Bearing	2
12	40440-061	WASHER, Thrust	4
13	40442-091	BEARING	2
14	40439-010	HOUSING	1
15	40428-045	SCREW	1
16	34574-061	PIN, Roll	1
17	4772-045	SETSCREW	3
18	45305-091	TUBING	1
19	40416-056	ROD, Control	1
20	53426-010	YOKE	1
21	45870-031	PLATE	1

Service Bulletin Number						

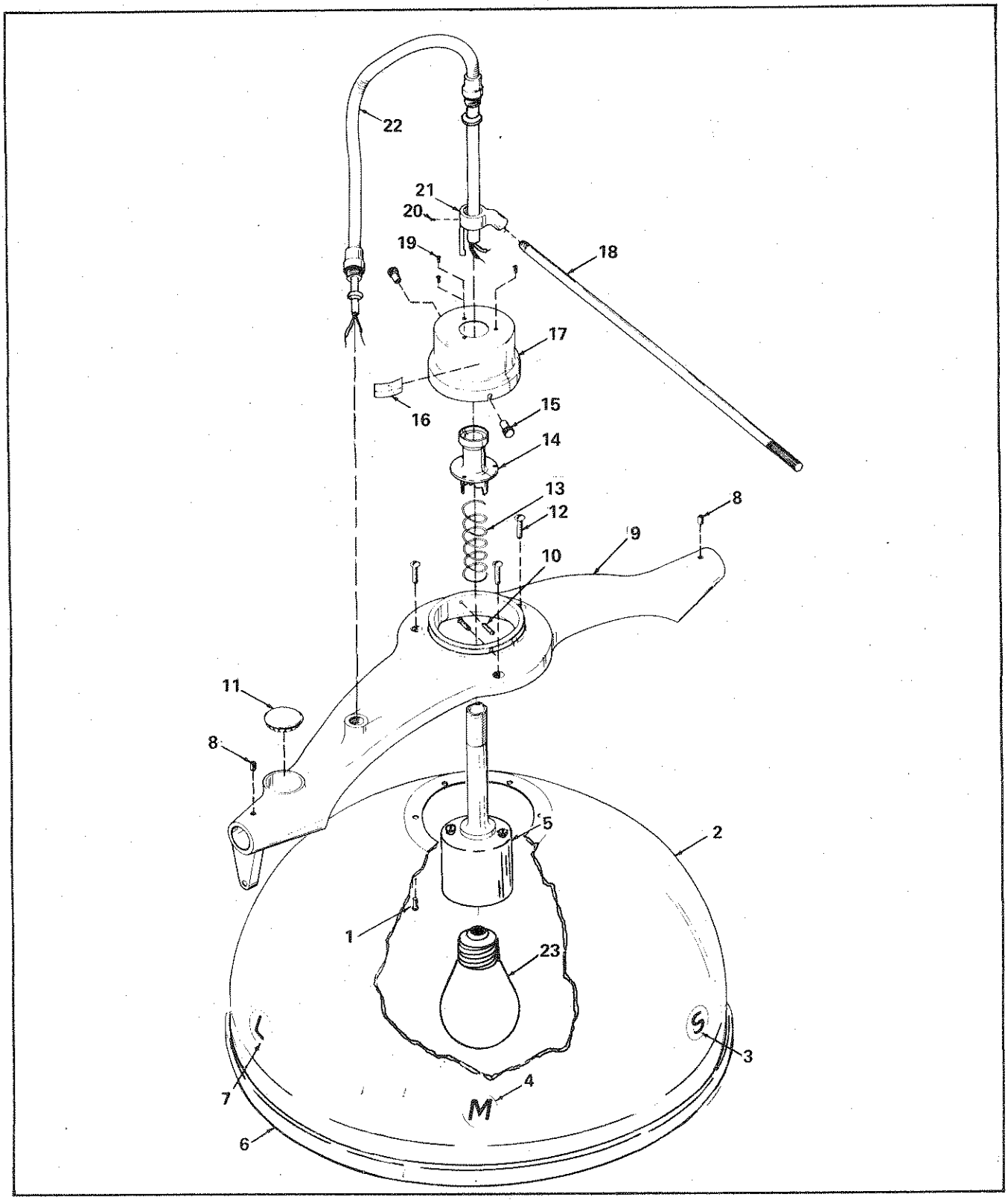


Figure 5-10. REFLECTOR ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-10-	97629-091	REFLECTOR ASSEMBLY	*			
1	11321-042	SCREW, Round Head 1/4-20 x 3/8"	1			
2	59248-010	REFLECTOR	1			
3	30561-091	DECAL, Small	1			
4	30562-091	DECAL, Medium	1			
5	48072-091	SOCKET ASSEMBLY	1			
	40411-091	• STEM	1			
	24530-091	• SOCKET	1			
	27290-061	• RING, Split (Insert between screw shell and porcelain base)*	1			
	11241-041	• SCREW, No. 8-32 x 5/8	2			
6	50094-091	RING, Guard	1			
7	30563-091	DECAL, Large	1			
8	40006-061	SETSCREW – 1/4-20 x 5/16"	2			
9	53335-010	SUPPORT	1			
10	3960-041	SCREW, Round Head – No. 6-32 x 1/2"	2			
11	36700-056	PLUG, Button	1			
12	3949-042	SCREW, Round Head – 1/4-20 x 3/4"	3			
13	25432-091	SPRING	1			
14	26707-043	GUIDE, Focus	1			
15	26684-055	KNOB	2			
16	46359-091	LABEL, UL	1			
17	26685-056	CAP, Housing	1			
18	26851-055	ROD, Focus	1			
19	3983-041	SCREW, Round Head	3			
20	10583-091	SETSCREW – No. 10-32 x 3/16"	1			
21	26852-056	COLLAR, Focus	1			
22	92504-001	CONDUIT AND WIRE ASSEMBLY (Do not replace individual wires)	1			
23	45704-091	LAMP (120 Volt, 150P25/2SB)	1			
		*Order 27290-061 when only replacing split ring.				

Service Bulletin Number						

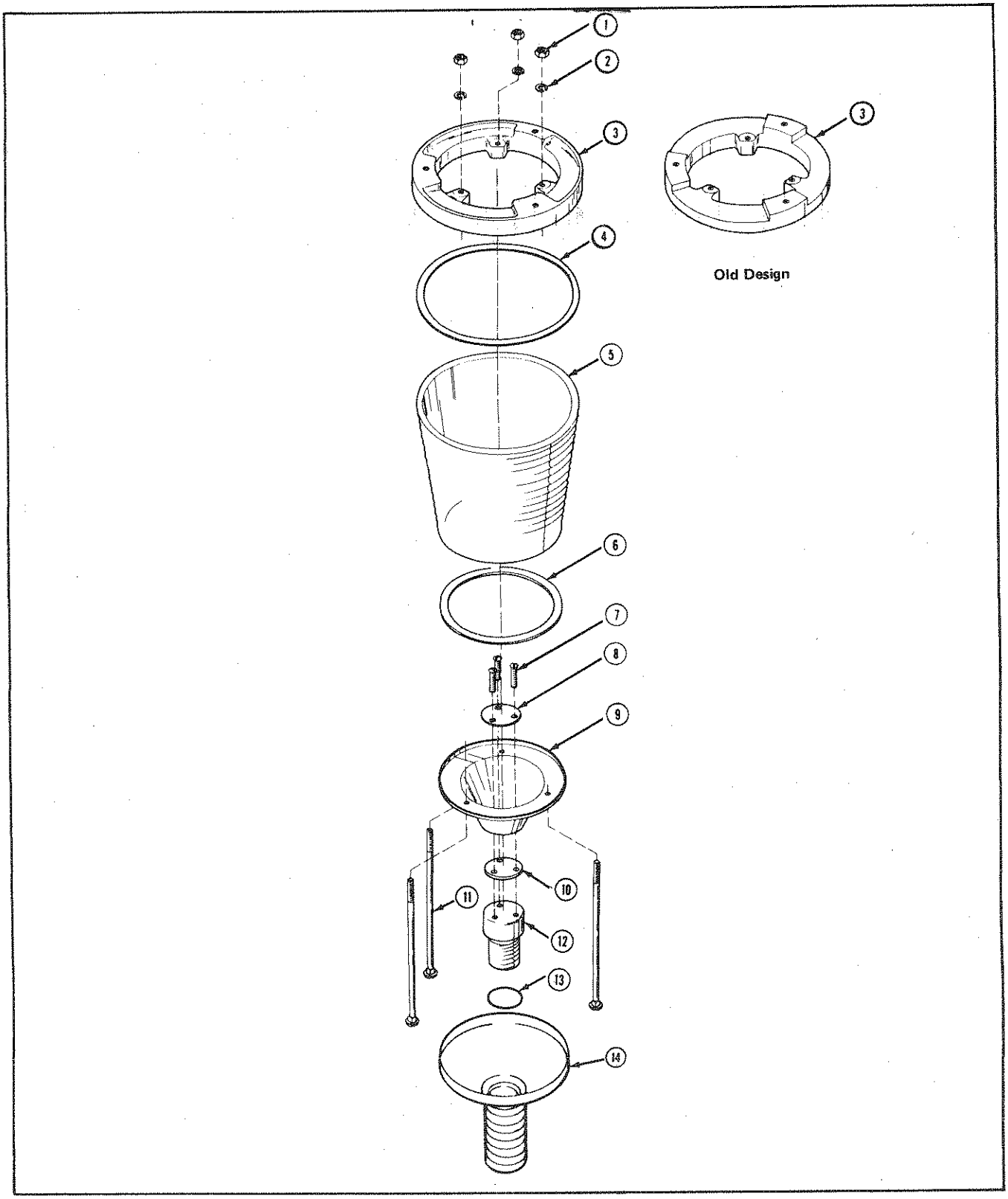
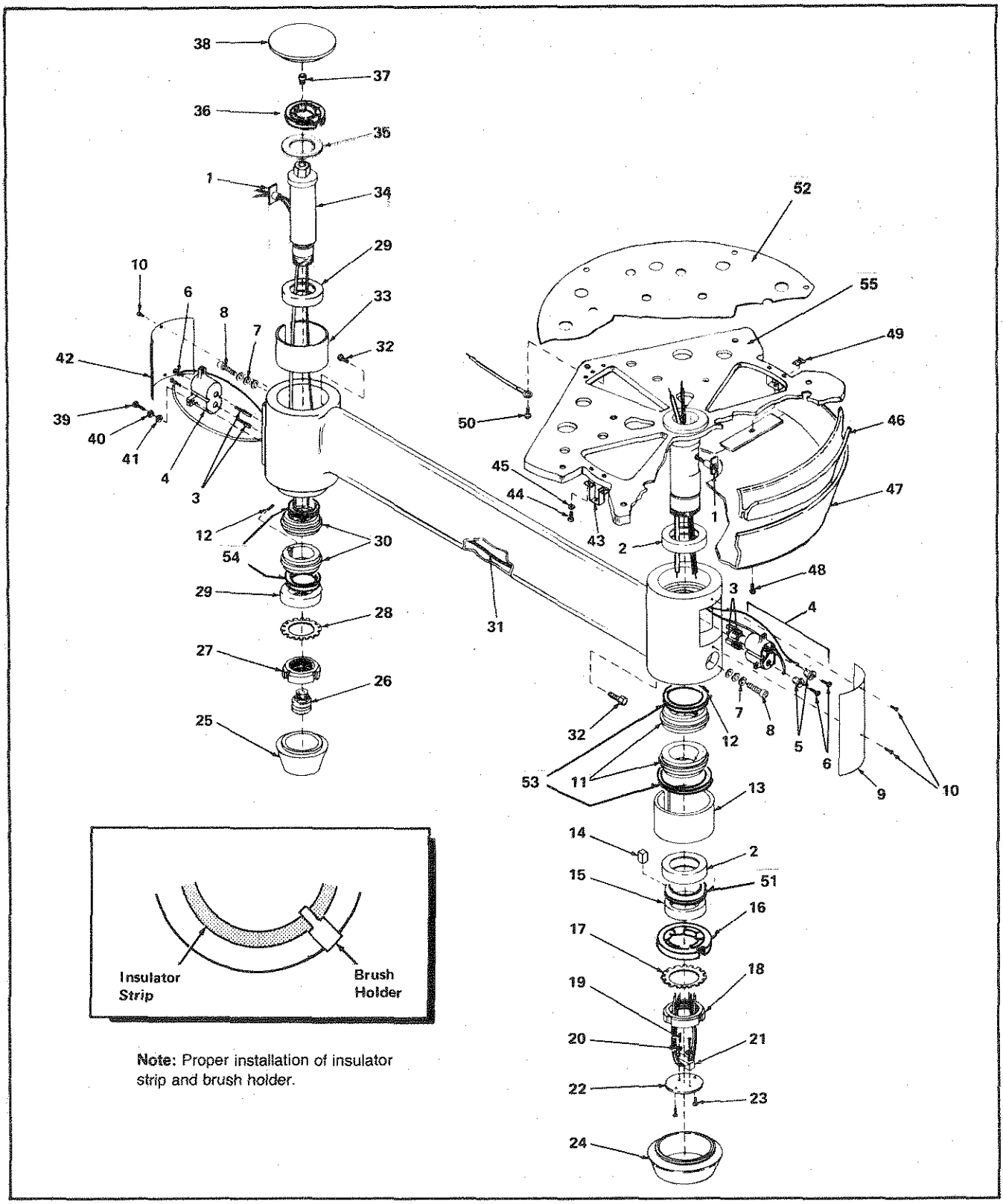


Figure 5-11. OPTICAL ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-11-		OPTICAL ASSEMBLY	*			
	46222-091	GLOBE KIT	1			
	45704-091	• LAMP	1			
1	3039-041	• NUT, Hex — No. 10-24	3			
2	19685-061	• LOCKWASHER — No. 10	3			
3	53332-057	• RING, Inner	1			
4	45072-091	• GASKET	1			
5	53333-091	• CYLINDER, Heat	1			
6	45895-091	• GASKET	1			
7	52022-045	• SCREW, Self Tapping — No. 10-24 x ¾″	3			
8	52023-061	• PLATE, Reinforcing	1			
9	54318-033	• CAP, Globe	1			
10	49086-091	• INSULATOR	1			
11	48771-045	• BOLT, Carriage	3			
12	49101-091	• RETAINER	1			
13	31587-091	• O-RING	1			
14	27183-033	HANDLE, Sterile Tilt	1			

Service Bulletin Number						



Note: Proper installation of insulator strip and brush holder.

Figure 5-12. HORIZONTAL ARM ASSEMBLY (Centra 360).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-12-		HORIZONTAL ARM ASSEMBLY, One Lighthead	*			
		HORIZONTAL ARM ASSEMBLY, Two Lightheads		*		
		HORIZONTAL ARM ASSEMBLY, Three Lightheads			*	
1	82355-001	BUSHING, Insulating	2	4	6	
2	82353-001	BEARING (For Equipment Shipped Before 12/74)	2	4	6	
	†150089-001	BEARING (For Equipment Shipped After 12/74)	2	4	6	
3	82351-001	BRUSH	4	8	12	
4	92484-001	BRUSH HOLDER ASSEMBLY	2	4	6	
5	82363-001	• INSERT, Flange	4	8	12	
6	82366-001	• SCREW, Pan Head – No. 8-32 x 1/4"	4	8	12	
7	82365-001	WASHER, Spring	6	12	18	
8	82367-001	SCREW, Socket Head – 3/8"-24 x 1"	2	4	6	
9	92486-001	COVER ASSEMBLY	1	2	3	
10	17659-041	SCREW, Round Head – No. 4-40 x 1/4"	4	8	12	
11	56102-002	COLLECTOR RING ASSEMBLY	2	4	6	
12	82377-001	SETSCREW, Flat Point – No. 4-40 x 3/16"	4	8	12	
13	82350-003	INSULATOR	1	2	3	
14	82369-001	KEY	1	2	3	
15	82368-001	RING, Spacer	1	2	3	
16	56105-022	BRAKE ASSEMBLY	1	2	3	
17	82362-002	LOCKWASHER	1	1	1	
18	82361-002	LOCKNUT	1	1	1	
19	3964-041	SCREW, Round Head – No. 6-32 x 5/8"	2	2	2	
20	5469-041	WASHER	2	2	2	
21	82380-001	RESTRAINT, Wire	1	1	1	
22	82358-001	PLATE, Bottom	1	1	1	
23	50705-041	SCREW, Flat Head – No. 6-32 x 5/16"	2	2	2	
24	92480-001	CAP, Center Hub	1	1	1	
25	82357-001	CAP, Outer Hub	1	2	3	
26	82326-001	GRIP, Sealing	1	2	3	
27	82361-001	LOCKNUT	1	2	3	
28	82362-001	LOCKWASHER	1	2	3	
29	82352-001	BEARING (For Equipment Shipped Before 12/74)	2	4	6	
	†150088-001	BEARING (For Equipment Shipped After 12/74)	2	4	6	
30	56102-001	COLLECTOR RING ASSEMBLY	2	4	6	
31	92487-001	CORD, 41" Long	A/R	1	2	
	92487-002	CORD, 53" Long	A/R	1	2	
32	82473-001	SCREW – 3/8"-24 x 3/4"	2	4	6	
33	82350-001	INSULATOR	1	2	3	
34	135362-001	SPINDLE	1	2	3	

†Note: Grease these bearings with petroleum jelly.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY		
5-12- 35	82462-001	SHIELD, Bearing (Outer Hub)	1	2	3
	82463-001	SHIELD, Bearing (Center Hub – Not Shown)		1	2
36	56105-001	BRAKE ASSEMBLY	1	2	3
37	82470-001	PLUG, Pipe – 3/4 NPT	1	2	3
38	82356-001	COVER, Access	1	2	3
39	13334-091	SCREW, Round Head – No. 4-40 x 3/8"	6	12	18
	90713-041	LOCKWASHER	6	12	18
41	26032-091	WASHER	6	12	18
42	92486-002	COVER ASSEMBLY	1	2	3
43	82371-001	CLIP, *Canopy*	4	4	4
44	12451-041	SCREW, Round Head — No. 6-32 x ¼"	8	8	8
45	19675-041	LOCKWASHER	8	8	8
46	92485-001	GASKET, Canopy, Standard	1	1	1
	92485-002	GASKET, Canopy, Castle	1	1	1
47	135364-001	CANOPY, Standard (20½" O.D.)	A/R	A/R	A/R
	135364-002	CANOPY, Castle (19-13/16" O.D.)	A/R	A/R	A/R
48	25400-041	SCREW, Truss Head — No. 10-32 x ½"	4	4	4
49	48982-045	NUT, Speed	4	4	4
50	9374-041	SCREW, Round Head — No. 10-32 x ⅜"	1	1	1
51	150090-001	STRIP, Filler	1	2	3
52	142885-001	CEILING COVER PLATE (20½-inch diameter)	1	2	3
	142885-002	CEILING COVER PLATE (19-15/16-inch diameter)	1	2	3
53	759509-001	SPACER	2	4	6
54	759510-001	SPACER	2	4	6
55	168782-002	MOUNTING PLATE	1	2	3

Service Bulletin Number						

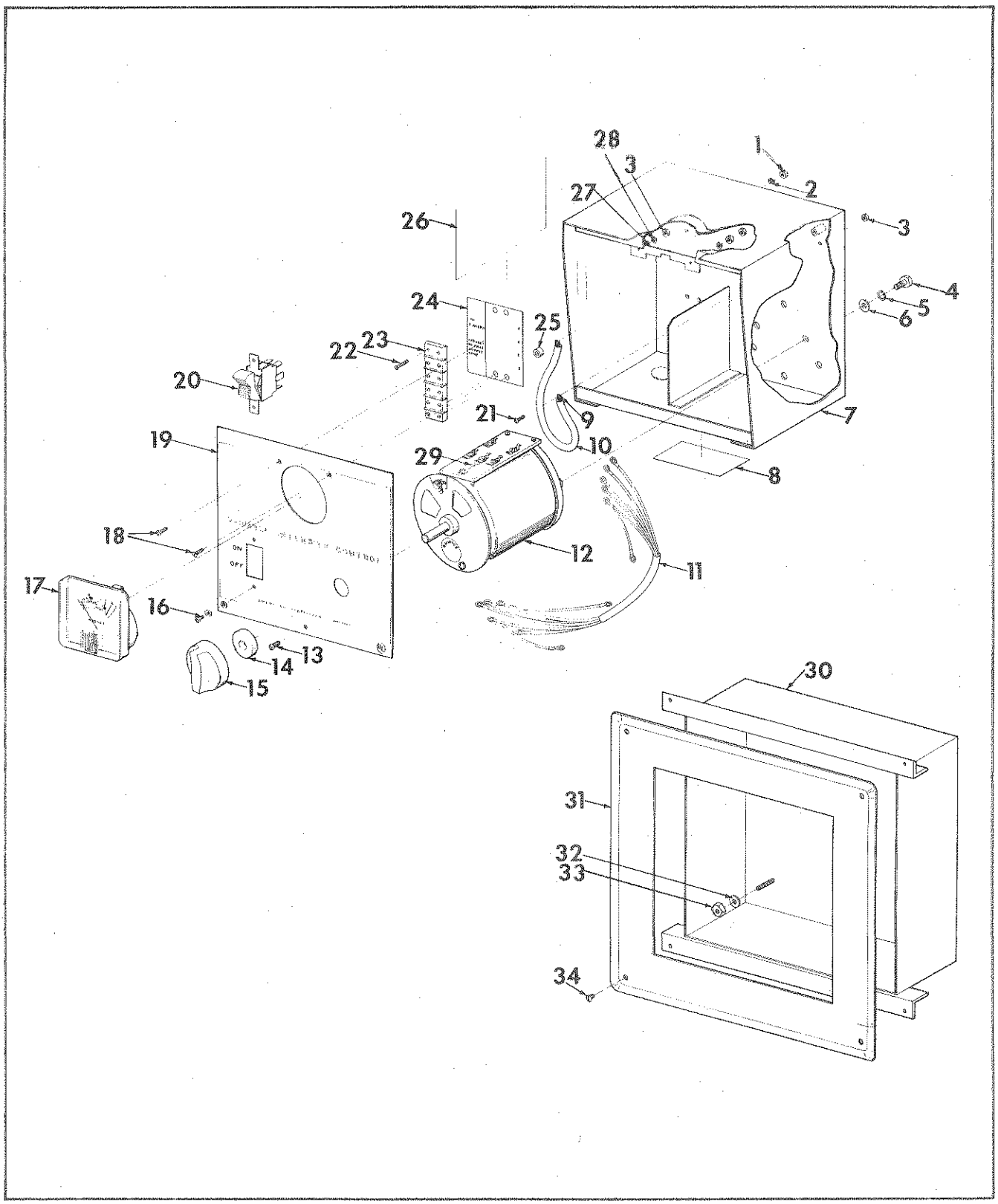


Figure 5-13. OPTIONAL VARIABLE INTENSITY CONTROL (Units Shipped Before 5/66).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-13-	97863-091	VARIABLE INTENSITY CONTROL, Open Mounted (Units Shipped Before 5/66)	*			
	74533-091	VARIABLE INTENSITY CONTROL, Recessed (Units Shipped Before 5/66)		*		
1	2959-041	NUT, Hex – No. 10-32	4	4		
2	19677-041	LOCKWASHER – No. 10	4	4		
3	3037-041	NUT, Hex – No. 6-32	3	3		
4	3846-041	CAPSCREW – 1/4-20 x 1/2″	3	3		
5	19678-045	LOCKWASHER – 1/4″	3	3		
6	5473-041	WASHER	3	3		
7	53346-010	BOX, Control	1	1		
8	45984-091	NAMEPLATE	1	1		
9	45527-091	CHAIN	1	1		
10	45526-091	TUBING	1	1		
11	53375-091	HARNESS, Wire	1	1		
12	53357-091	TRANSFORMER – Ohmite VT-4 3.5 AMP	1	1		
	759631-001	• BRUSH AND CONTACT ASSEMBLY (Not Shown)	1	1		
13	45307-041	SCREW, Phillips – No. 8-32 x 1/4″	1	1		
14	45322-091	WASHER, Felt	1	1		
15	45189-091	KNOB	1	1		
16	45306-091	SCREW, Phillips – No. 4-10 x 3/8″ Oval Head	2	2		
	19676-041	LOCKWASHER – No. 8	2	2		
	13794-041	NUT, Hex – No. 4-40	2	2		
17	53281-091	VOLTMETER	1	1		
18	3961-041	SCREW, Flat Head – No. 6-32 x 3/8″	2	2		
19	54418-031	PLATE, Cover	1	1		
20	45280-091	SWITCH, Rocker	1	1		
21	3984-041	SCREW, Round Head – No. 6-32 x 3/8″	1	1		
22	9316-041	SCREW, Round Head – No. 10-32 x 5/8″	4	4		
23	39091-091	BLOCK, Terminal	1	1		
24	45957-091	LABEL, Terminal Block	1	1		
25	42460-091	WASHER	2	2		
26	44284-091	STICKER, Wiring Diagram	1	1		
27	45838-091	STOP	1	1		
28	19675-041	LOCKWASHER – No. 6	2	2		
29	49935-091	LINK, Fusible	1	1		
30	24513-020	BOX, Rough		1		
31	24519-061	FLANGE		1		
32	19678-045	LOCKWASHER		3		
33	3097-041	NUT, Hex		3		
34	20821-061	SCREW		4		
	47182-091	BUSHING, Snap (Not Shown)	2	2		

Service Bulletin Number						

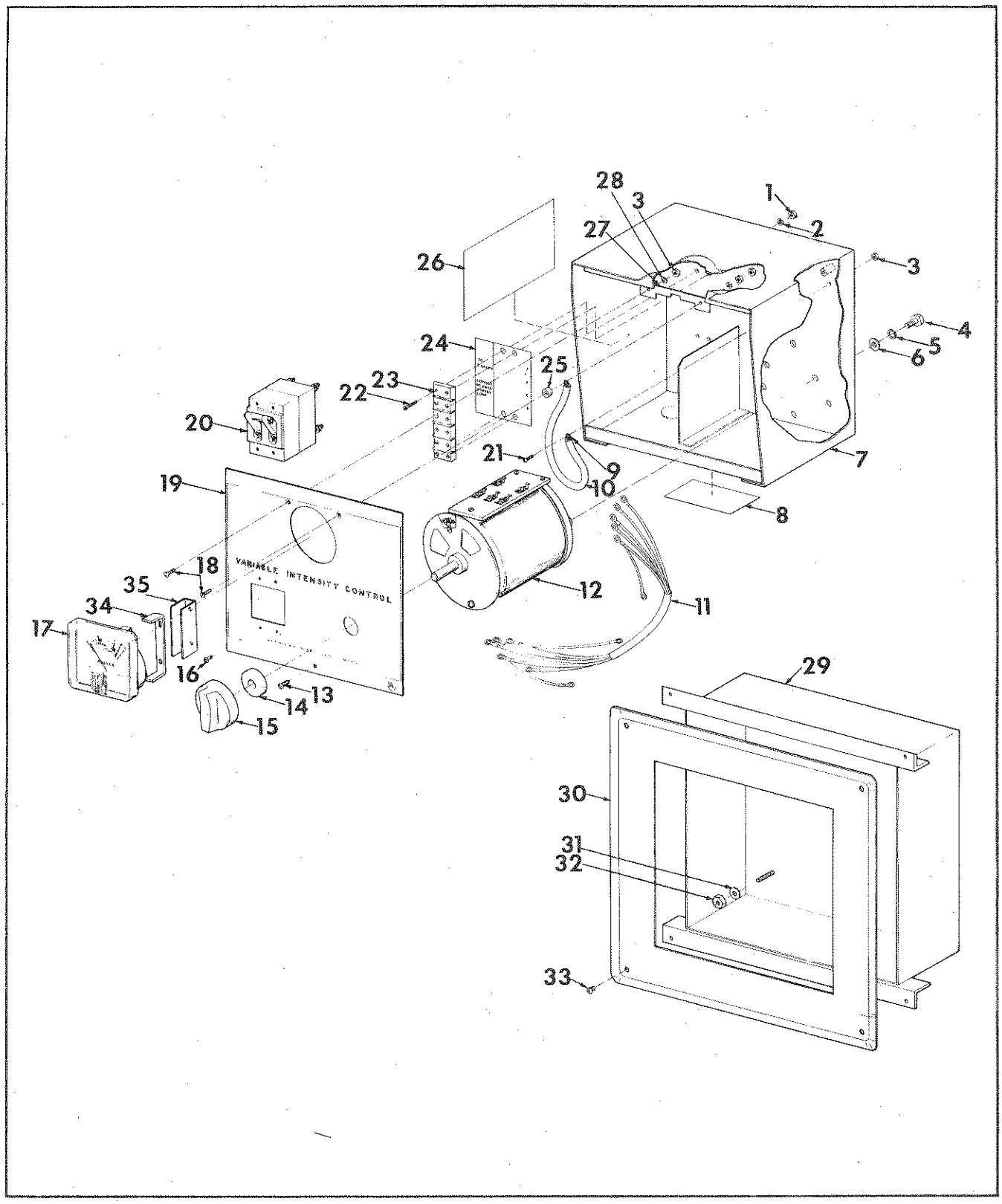


Figure 5-14. OPTIONAL VARIABLE INTENSITY CONTROL (Units Shipped After 5/66).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-14-	97710-091	VARIABLE INTENSITY CONTROL, Open Mounted (Units Shipped After 5/66)	*			
	52263-091	VARIABLE INTENSITY CONTROL, Recessed (Units Shipped After 5/66)		*		
1	2959-041	NUT, Hex – No. 10-32	4	4		
2	19677-041	LOCKWASHER – No. 10	4	4		
3	3037-041	NUT, Hex – No. 6-32	3	3		
4	15287-041	CAPSCREW	3	3		
5	19677-041	LOCKWASHER	3	3		
6	5508-041	WASHER	3	3		
7	53346-010	BOX, Control	1	1		
8	45984-091	NAMEPLATE	1	1		
9	45527-091	CHAIN	1	1		
10	45526-091	TUBING	1	1		
11	54451-091	HARNESS, Wire	1	1		
12	44325-091	TRANSFORMER – General Radio W-5 – 6 AMP	1	1		
	753515-091	• BRUSH ASSEMBLY	1	1		
13	45307-041	SCREW, Phillips – No. 8-32 x 1/4″	1	1		
14	45322-091	WASHER, Felt	1	1		
15	45189-091	KNOB	1	1		
16	52265-041	SCREW, Phillips – No. 6-32 x 1/4″ Oval Head	4	4		
17	53281-091	VOLTMETER	1	1		
18	3961-041	SCREW, Flat Head – No. 6-32 x 3/8″	2	2		
19	54187-031	PLATE, Cover	1	1		
20	52262-091	CIRCUIT BREAKER	1	1		
21	3984-041	SCREW, Round Head – No. 6-32 x 3/8″	1	1		
22	9316-041	SCREW, Round Head – No. 10-32 x 5/8″	4	4		
23	39091-091	BLOCK, Terminal	1	1		
24	45957-091	LABEL, Terminal Block	1	1		
25	42460-091	WASHER	2	2		
26	50095-091	STICKER, Wiring Diagram	1	1		
27	45838-091	STOP	1	1		
28	19675-041	LOCKWASHER – No. 6	2	2		
29	24513-020	BOX, Rough		1		
30	24519-061	FLANGE		1		
31	19678-045	LOCKWASHER		3		
32	3097-041	NUT, Hex		3		
33	20821-061	SCREW		4		
34	50411-091	INSULATOR	1	1		
35	50412-091	BRACE	1	1		

Service Bulletin Number						

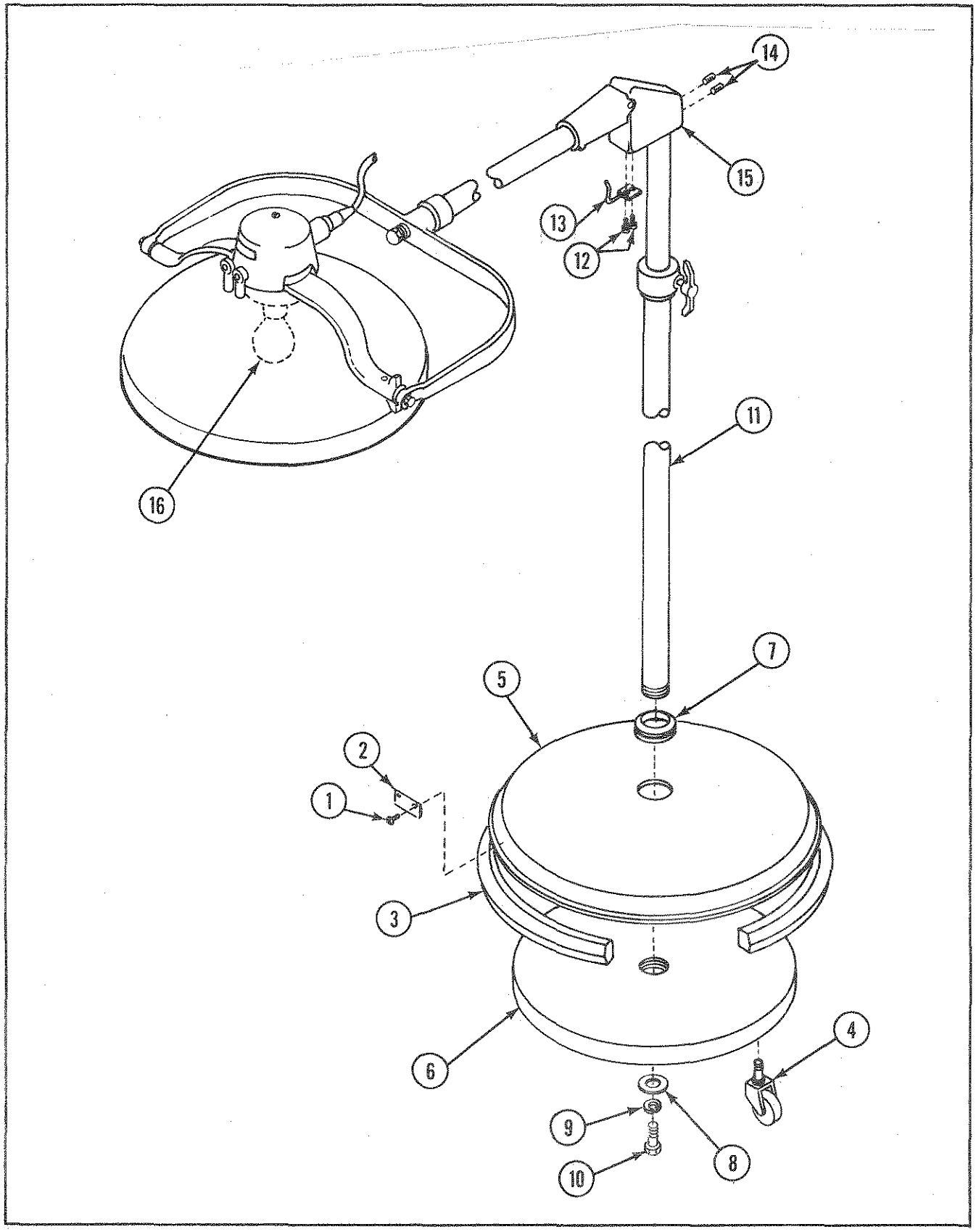


Figure 5-15. PORTABLE EXPLOSIONPROOF LUMINAIRE (Model PX-22).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-15-	59746-091	22″ PORTABLE EXPLOSION PROOF LUMINAIRE (Model PX-22) . .	*
1	40357-045	SCREW, *Self-tapping* — No. 6-32 x ¼	6
2	21004-041	PLATE, UL	1
3	45692-091	BUMPER	1
4	21342-091	CASTER	8
5	59249-010	COVER, Base	1
6	55823-010	PLATE, Base	1
7	45691-091	GROMMET	1
8	24959-091	WASHER, ¾″ (2″ O.D.)	1
9	45053-091	LOCKWASHER, ¾″	1
10	3886-091	BOLT, ¾″-10 x 1½	1
11	53408-091	STAND ASSEMBLY (See Figure 5-16)	1
12	9282-041	SCREW — No. 10-32 x ⅜	2
13	76624-056	CLIP, Cord	1
14	4433-041	SETSCREW, ¼″-20 x 5/16	2
15	59744-091	ARM AND REFLECTOR ASSEMBLY (See Figure 5-17)	1
16	41517-091	LAMP, Large (GE No. 150P2518)	2

Service Bulletin Number						

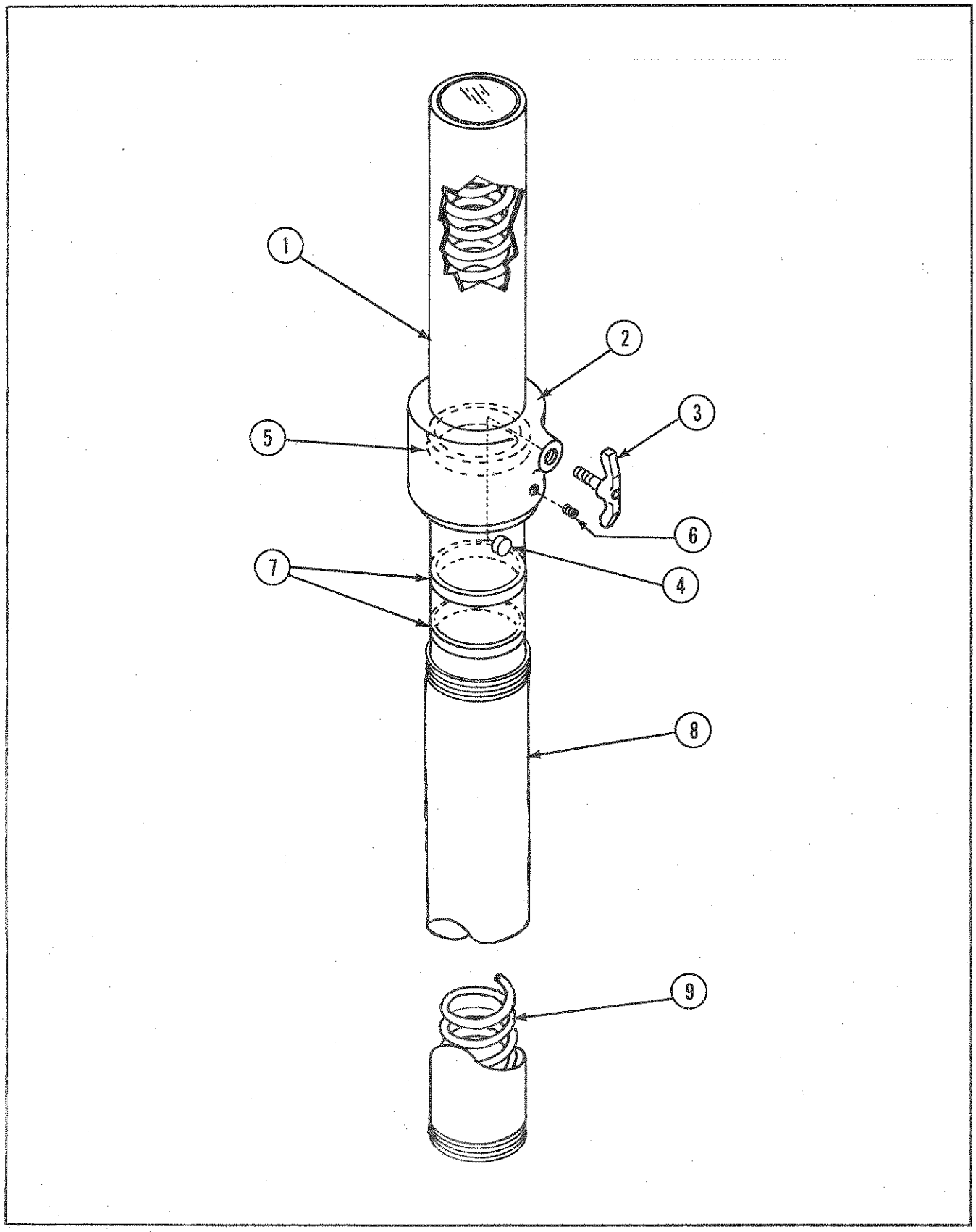


Figure 5-16. VERTICAL TUBE STAND ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-16-	53408-091	VERTICAL TUBE STAND ASSEMBLY	*			
1	24167-056	TUBE — UPPER ASSEMBLY	1			
2	24042-056	CLAMP, Brass	1			
3	26552-056	WING SCREW ASSEMBLY	1			
4	24946-091	SHOE, Clamping, Brass	1			
5	24174-091	BUSHING, Clamp, Teflon	1			
6	4772-045	SET SCREW, ¼″-20 x ¼	1			
7	24175-091	BUSHING, Inner, Teflon	2			
8	24170-010	TUBE — LOWER ASSEMBLY	1			
9	23707-091	SPRING	1			

Service Bulletin Number						

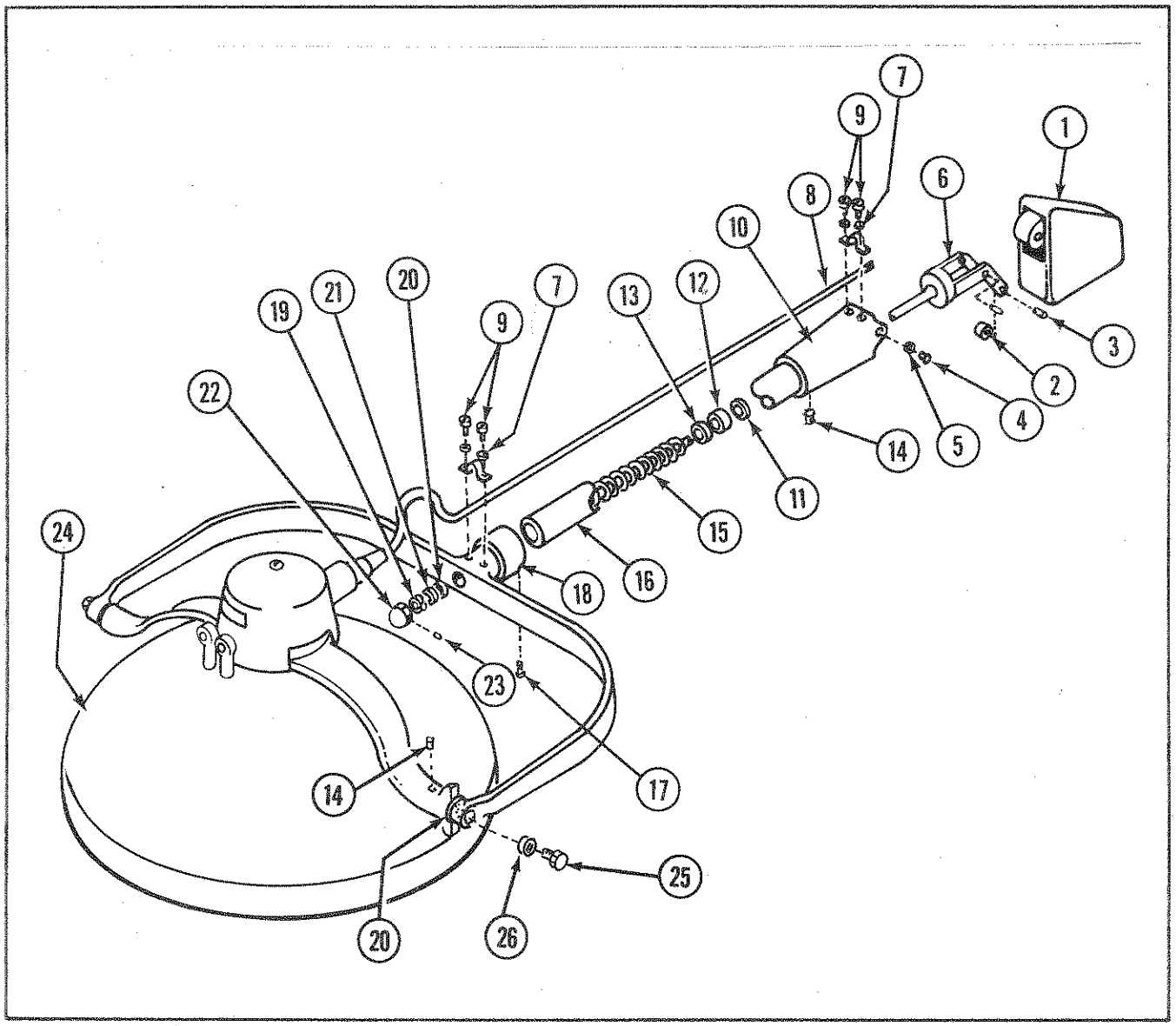


Figure 5-17. ARM AND REFLECTOR ASSEMBLY.

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-17-	59744-091	ARM AND REFLECTOR ASSEMBLY	*
1	74019-010	HEAD ASSEMBLY	1
2	24960-091	ROLLER	1
3	18706-091	PIN, Roller, Steel	1
4	18710-062	SCREW, Shoulder, Stainless Steel	2
5	10470-061	LOCKWASHER, ⅜''	2
6	45700-091	FORK AND ROD ASSEMBLY	1
7	19690-061	LOCKWASHER, No. 8	4
8	45703-061	RETAINER, Cord	2
9	3967-041	SCREW, Round Head, No. 8-32 x ¼	4
10	45830-010	FORK, Arm Support, Mall. Iron	1
11	26585-091	WASHER, Steel	1
12	39839-091	BUSHING ASSEMBLY	1
13	26584-091	PILOT, Brass	1
14	15736-091	SETSCREW, ¼''-20 x ⅜	3
15	26581-091	SPRING	1
16	45702-056	SUPPORT-TUBE ASSEMBLY	1
17	31774-091	PIN, Drive Lock	1
18	59246-010	YOKE, Aluminum Casting	1
19	19692-061	LOCKWASHER, ⅝''	1
20	18880-091	WASHER, Fiber	3
21	17285-045	WASHER, Steel	1
22	45754-056	NUT, Tilt, Brass ⅝''-18	1
23	10583-091	SETSCREW, No. 10-32 x 3/16	1
24	59750-091	REFLECTOR ASSEMBLY (See Figure 5-18)	1
25	25438-056	SCREW, Yoke, Chrome Steel	2
26	26565-041	WASHER, Bellville	2

Service Bulletin Number						

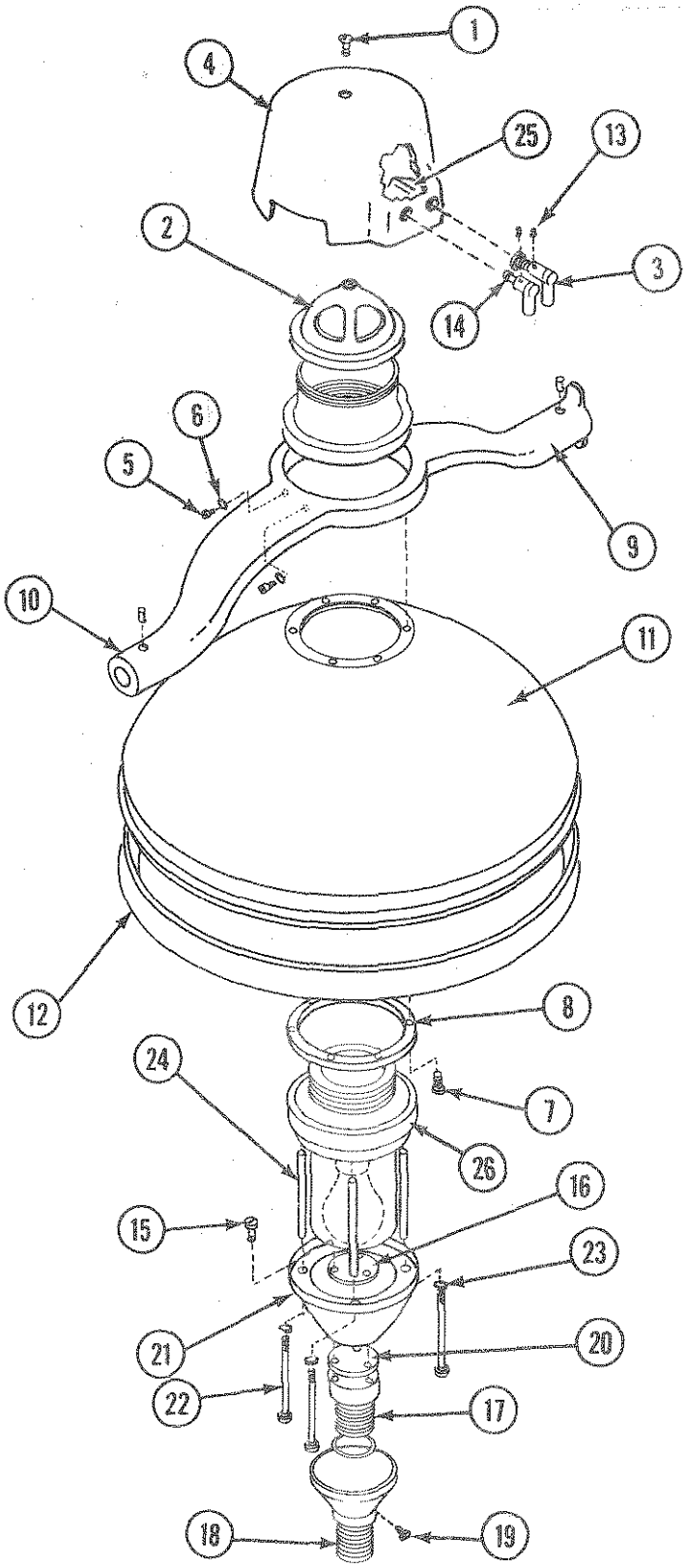


Figure 5-18. REFLECTOR ASSEMBLY (PX-22).

Service Bulletin Number						

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-18-	59750-091	REFLECTOR ASSEMBLY (PX-22)	*			
1	4682-091	SCREW, Round Head, No. 8-32 x ⅜	1			
2	45829-091	CONDULET, Crouse-Hinds EVS-505	1			
3	45734-091	LEVER	2			
4	53390-033	COVER, Aluminum	1			
5	12176-041	SCREW, Socket Head, ¼''-20 x ¾	4			
6	19678-045	LOCKWASHER, Steel, ¼''	4			
7	40825-041	SCREW, Flat Head, Brass, No. 8-32 x ½	6			
8	45695-045	RING, Reflector, Chrome Steel	1			
9	52253-010	BRACKET, Head, Cast Aluminum	1			
10	52254-010	BRACKET, Head, Cast Aluminum	1			
11	59248-010	REFLECTOR	1			
12	50094-091	RING, Guard	1			
13	27429-091	SETSCREW, Cup Pt., No. 8-32 x 3/16	2			
14	45727-056	EXTENSION, Switch Shaft	2			
15	52022-045	SCREW, Self Tapping, No. 10-24 x ¾	3			
16	52023-061	PLATE, Reinforcement	1			
17	49101-091	RETAINER, Nylon	1			
18	27183-033	HANDLE, Sterilizable, Aluminum	2			
19	31587-091	O-RING	1			
20	49086-091	INSULATOR	1			
21	54049-033	SUPPORT	1			
22	3990-042	SCREW, Round Head, Brass, No. 10-24 x ⅜	3			
23	19685-061	LOCKWASHER, Stainless Steel	3			
24	45720-033	ROD, Supporting, Aluminum	3			
25	74478-091	SWITCH (ON/OFF)	1			
26	755496-001	GLOBE ASSEMBLY	1			

Service Bulletin Number						